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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This study developed data on Detroit Diesel Allison (DDA) common core derivative engines for use in Maritime Patrol Aircraft (MPA) concept formulation studies. The study included the screening of potential DDA turboprop/turboshaft engines and the preparation of technical and planning information on three of the most promising engine candidates plus an all new engine. Screening of DDA derivative candidates was performed utilizing an analytical MPA model using synthesized mission profiles to rank the candidates in terms

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of fuel consumption, weight, cost and complexity. The three turboprop engines selected for further study were as follows: a derivative of the unity size T701-AD-700 shaft power engine with rematched turbine (PD 370-37), an advanced T701 turboprop derivative with 25:1 overall pressure ratio and a scaled ATEGG demonstrated compressor (PD 370-40), an advanced T701 turboprop derivative with 17.7:1 overall pressure ratio and a scaled ATEGG demonstrated compressor (PD 370-41). Data is also presented on a new advanced turboprop engine with 30:1 overall pressure ratio which incorporates compressor, combustor, turbine, and cooling technology now under development and demonstration at DDA. The documentation consists of six seperate reports prepared in the following manner. One report summarizes the engine screening analysis and describes the approach to, and the conclusions of the study. A separate report for each of the three derivative engines and for the new turboprop present estimates of performance, weight, and dimensional data. The engineering budgetary estimates of the development, acquisition, and service costs for each of the four engines are presented in a separate report.

Detroit Diesel Allison
Division of General Motors Corporation
Indianapolis, Indiana 46206

TABLE OF CONTENTS

REVISIONS

Letter	Page	Revision
A	4	Gearbox and total weight
A	5	Gearbox, interconnecting struts and shaft, and total weight
A	9	Additional matrix points at 0 and 25,000 feet
A	12	Additional performance
A	17	Additional performance
A	22	Additional performance
A	27	Additional performance

Detroit Diesel Allison
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Indianapolis, Indiana 46206

I. INTRODUCTION

This report presents estimates of performance, weight, and dimensional data for the PD370-37 turboprop engine. The engine is in the 8000 to 9000 SHP class and is intended for subsonic aircraft. The data is submitted for use in preliminary design type studies in the evaluation of turboprop systems.

The PD370-37 is a derivative of the unity size T701-AD-700 shaft power engine, with the turbine rematched for better turboprop characteristics. The T701-AD-700 is a free turbine turboshaft engine that was developed through safety demonstration testing, for the U.S. Army's HLH program. The Model 570, a commercial industrial version of this engine, has undergone additional development testing, and is now in production.

The reduction gearbox for speed reduction to the prop-fan is a new simplified design compared to the DDA T56 series of gearboxes. The new design is based upon a study into the reliability and maintenance cost history of past turboprop systems, and follows the recommendations from that study for a gearbox with high reliability, easy maintainability, and low maintenance cost.

II. ENGINE DESCRIPTION

The Model PD 370-37 is a single spool, free power turbine, axial flow power unit connected by shafting, and supporting structure to an offset reduction gear assembly. The general arrangement and external features of the engine are shown in Figure II-1, with principle physical characteristics listed in Table II-I. The reduction gear shown in Figure II-1 has an overall gear ratio of 10.83:1, providing a propfan speed of 1390 rpm at a constant power turbine output speed of 15,049 rpm. However, parametric weight data is shown in Section III so that other propfan rotational speeds, and gear ratios can be analyzed. An aircraft accessory drive pad is provided on the back of the gearbox to drive an aircraft mounted accessory drive box. Power available at this pad is 500 HP at 8000 rpm. The primary engine mounts are on the gearbox with a hang mount at the rear of the engine. Engine accessories are driven by a bevel drive from the high pressure spool. The control system is integral with the prop-fan and is electro-mechanical. The oil system is integral to the engine and also supplies the prop-fan and reduction gearbox, but is separately filtered and monitored to isolate fault detection in each of these major modules. Engine torque is measured hydraulically from the gear thrust of the power train idler gears in the reduction gearbox.

The gearbox is shown offset, based upon DDA's experience with large turboprop engines. It is offset-up to be consistent with current studies showing a preference to under-the-wing engine mounting. It can also be supplied in the offset-down position.

Performance ratings, sea level static, are listed in Table II-II.

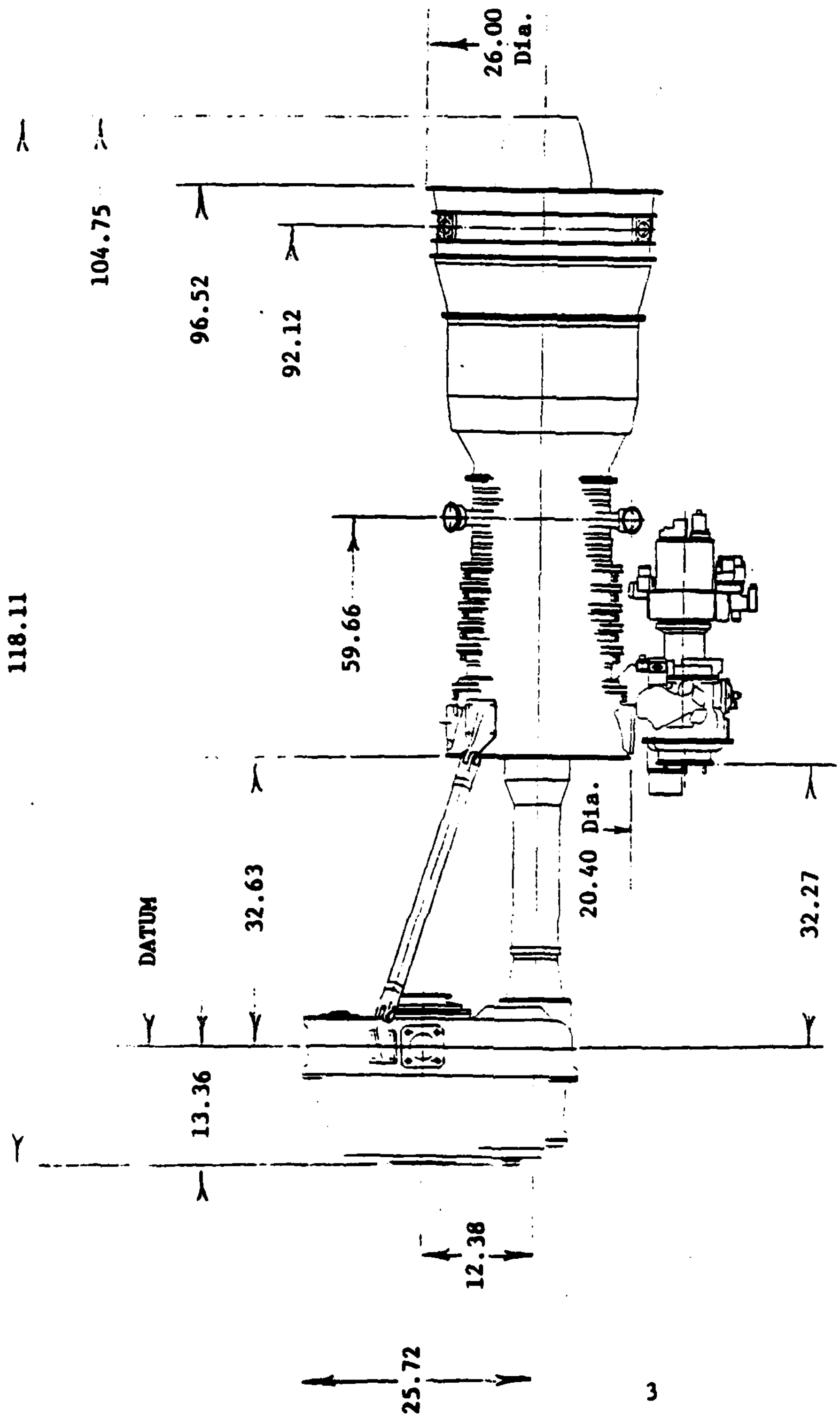

Figure II-1. PD370-37 General Arrangement.

TABLE II-I

PD 370-37 PHYSICAL CHARACTERISTICS

(Includes Gearbox)

Length (in)	118.11
Max Engine Diameter (in)	26.00
Max Gearbox Offset, Upward (in)	25.72
Dry Weight, lbs.	
Engine	1105
Gearbox, including Interconnecting Struts & Shaft	501
Total	1606

For gear ratios other than 10.83:1 the reduction gearbox dimensions may be scaled as follows:

$$\mathrm{Dim}_{GR} = \text{Base dim} \times \left(\frac{GR}{10.83}\right)^{0.33}$$

Sea level performance ratings are summarized in Table II-II.

TABLE II-II

PD 370-37 PERFORMANCE SUMMARY

Sea Level, 0 Kts.

	Standard Day			Hot Day, 89.8°F		
	SHP	SFC	F_n	SHP	SFC	F_N
Take-Off	8450	0.443	1213	7766	0.448	1100
Max. Continuous	7455	0.443	1079	6408	0.461	913

III. WEIGHTS

The weight of the basic engine, gearbox, interconnecting struts and shaft are given in Table III-I. The gearbox weight is based upon a gear ratio of 10.83:1 which provides a propfan speed of 1390 rpm.

TABLE III-I

PD 370-37 Weights

	Dry	Wet*	Installed
Basic Engine, lbs.	1105	1128	1128
Gearbox, lbs.	471	508	508
Interconnecting Struts and Shaft	30	30	30
Total, lbs.	1606	1666	1666

* Includes total amount of oil required for engine and gearbox operation.

For gear ratios other than 10.83:1, the gearbox, interconnecting strut and shaft dry weights may be estimated as follows:

$$\text{Dry Gearbox weight} = 471 \left(\frac{GR}{10.83}\right)^{0.4}$$

Interconnecting strut and shaft weight = 6.4% of dry gearbox weight.

IV. STEADY STATE PERFORMANCE

Steady state performance data is tabulated in this section for all points shown in Figure IV-1. Basic engine data is shown for the following assumptions:

- Uninstalled engine
- ICAO standard atmosphere except for takeoff which in addition includes an ambient temperature of 89.8°F at standard atmosphere
- 100% inlet recovery
- Zero accessory horsepower extraction
- Zero customer bleed extraction
- Zero losses due to reduction gear
- Fuel heating value - 18,400 Btu/lb
- Estimated average engine performance - No SHP or fuel flow guarantee factors

Sensitivity data is provided for each point so that bleed and duct losses may be estimated as required.

Nomenclature

Nomenclature used in the tabulation of performance is as follows:

MACH	Mach number
SHP	Shaft horsepower
SFC	Specific fuel consumption, lbs/hr/hp
WF	Engine fuel flow, lbs/hr
FN	Net jet thrust, lbs (jet gross thrust - ram drag)
ESHP	Equivalent shaft horsepower (energy in jet stream converted ideally to horsepower and added to SHP)
WCIN	Total inlet corrected airflow, $W\sqrt{\theta_1}/\delta_1$

where: $\theta_1 = \dfrac{\text{Engine inlet total temp, }^{\circ}\text{R}}{518.688}$

$$\delta_1 = \frac{\text{Engine inlet total pressure, psi}}{14.696}$$

TNOZ	Jet nozzle total temperature, ^{o}R
PNOZ	Jet nozzle total pressure, psi
RC	Compressor pressure ratio
BOT	Burner outlet temperature, ^{o}R
NO	Point number

Sensitivity Data

Bleed:

SHP, with bleed = SHP, no bleed - (DEL SHP)(% bleed)

WF, with bleed = WF, no bleed - (DEL WF)(% bleed)

FN, with bleed = FN, no bleed - (DEL FN)(% bleed)

Inlet Recovery:

η_R = Total pressure actual/Total pressure ideal

SHP, with recovery = SHP, ideal recovery - (DEL SHP)$(1 - \eta_R)(100)$

WF, with recovery = WF, ideal recovery (η_R)

FN, with recovery = FN, ideal recovery - (DEL FN)$(1 - \eta_R)(100)$

Jet Nozzle Duct Loss:

To estimate thrust loss due to additional duct loss prior to the jet nozzle, use the following equation:

$$\text{FN, with loss} = \text{FN, without loss} - \text{FN, without loss}\ (K)\left(\frac{\Delta P}{P}\right)$$

where,

- K is obtained for each point from sensitivity data
- $\frac{\Delta P}{P} = \frac{\text{PTOT, no loss} - \text{PTOT, total loss}}{\text{PTOT, no loss}}$

Reduction Gear Loss:

Reduction gear is 99 percent efficient.

Accessory Drive Losses:

Accessory drive power extraction is directly from the accessory drive pad on the reduction gearbox. Reduce SHP to prop-fan by amount of accessory power extraction at each point.

Nozzle Throat Area

The effective nozzle throat area is constant for all conditions at 300.0 in^2.

Standard and Hot Day; Takeoff and Maximum Continuous

Altitude (Ft x 10^{-3})	MACH Number 0	.1	.2	.3
0	X	X	X	X

Standard Day; Maximum Climb, Maximum Continuous and Part Power to Idle

Altitude (Ft x 10^{-3})	MACH Number .2	.3	.4	.5	.6	.7	.75	.8
0	X	X	X	X	X	X	X	X
5	X	X	X	X	X			
10	X	X	X	X	X	X	X	X
15		X	X	X	X	X	X	X
20			X	X	X	X	X	X
25			X	X	X	X	X	X
30				X	X	X	X	X
35				X	X	X	X	X
40				X	X	X	X	X
45				X	X	X	X	X

Figure IV-1. Matrix of flight conditions for performance data

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ZERO BLEED

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PD370-37 TURBOPROP

100 PERCENT RECOVERY

STD DAY

0 FEET ALTITUDE

GENERAL MOTORS CORPORATION

ZERO POWER EXTRACTION

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
TO	0.0	8450.	0.443	3744.	1213.2	9404.	44.2	1638.	16.82	12.7	0001
M.C.	0.0	7455.	0.443	3303.	1078.6	8233.	42.9	1547.	16.58	11.9	0002
TO	0.10	6515.	0.442	3762.	1070.8	9487.	44.2	1637.	16.85	12.7	0003
M.C.	0.10	7501.	0.442	3316.	936.7	8288.	42.9	1546.	16.59	11.9	0004
TO	0.20	6727.	0.437	3616.	947.5	9736.	44.1	1633.	16.91	12.6	0005
M.C.	0.20	7656.	0.438	3383.	806.8	8465.	42.6	1542.	16.64	11.8	0006
TO	0.30	9087.	0.430	3906.	841.9	10171.	44.0	1626.	17.02	12.5	0007
M.C.	0.30	7903.	0.432	3412.	666.5	8760.	42.3	1538.	16.72	11.7	0008

T AMBIENT = 89.8°F

0 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
TO	0.0	7766.	0.448	3479.	1399.5	8595.	43.1	1652.	16.61	12.0	0009
M.C.	0.0	6408.	0.461	2953.	913.3	7021.	40.2	1573.	16.27	10.9	0010
TO	0.10	7820.	0.447	3493.	958.1	8658.	43.0	1651.	16.63	12.0	0011
M.C.	0.10	6448.	0.459	2962.	779.4	7067.	40.2	1572.	16.29	10.8	0012
TO	0.20	7982.	0.443	3533.	830.5	8845.	42.8	1648.	16.68	11.9	0013
M.C.	0.20	6572.	0.455	2990.	655.0	7210.	39.9	1569.	16.32	10.7	0014
TO	0.30	8244.	0.436	3597.	712.1	9159.	42.4	1643.	16.77	11.7	0015
M.C.	0.30	6790.	0.447	3037.	538.5	7461.	39.5	1563.	16.39	10.6	0016

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

0 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FR	K	NO
TO	0.0	121.6	21.3	141.8	31.9	23.4	3.63	0001
M.C.	0.0	118.9	19.0	169.7	38.7	26.8	4.08	0002
TO	0.10	128.3	20.0	143.3	32.4	23.5	4.12	0003
M.C.	0.10	119.2	17.6	171.4	39.1	26.4	4.70	0004
TO	0.20	130.2	19.0	148.3	33.7	24.5	4.65	0005
M.C.	0.20	120.6	16.5	175.9	40.2	26.6	5.44	0006
TO	0.30	135.7	18.9	160.5	36.3	26.7	5.23	0007
M.C.	0.30	122.5	15.6	181.0	41.4	26.8	6.39	0008

T AMBIENT = 89.8°F

0 FEET ALTITUDE

TO	0.0	122.1	19.4	171.8	39.9	26.9	4.01	0009
M.C.	0.0	110.4	16.5	152.0	34.6	22.5	4.82	0010
TO	0.10	122.5	18.1	173.5	40.4	26.6	4.60	0011
M.C.	0.10	110.7	15.1	151.9	34.0	21.9	5.65	0012
TO	0.20	123.6	16.5	178.4	41.8	26.9	5.31	0013
M.C.	0.20	111.9	14.0	152.7	34.0	21.3	6.72	0014
TO	0.30	126.2	16.0	185.5	43.5	27.7	6.19	0015
M.C.	0.30	113.9	13.0	156.9	34.1	21.9	8.18	0016

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ZERO BLEED

EDR 9774

PD370-37 TURBOPROP

100 PERCENT RECOVERY

STD DAY

0 FEET ALTITUDE

GENERAL MOTORS CORPORATION

ZERO POWER EXTRACTION

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	8036.	0.436	3503.	857.4	8915.	43.3	1568.	16.74	12.1	A
M.C.	0.20	7663.	0.438	3353.	809.8	8477.	42.6	1542.	16.64	11.8	B
	0.20	7185.	0.441	3170.	749.7	7922.	41.7	1515.	16.52	11.4	C
	0.20	5794.	0.459	2658.	583.4	6329.	38.7	1444.	16.19	10.3	D
	0.20	4506.	0.487	2195.	442.1	4888.	35.6	1377.	15.88	9.1	E
	0.20	3351.	0.533	1785.	323.5	3618.	32.6	1314.	15.66	8.1	F
	0.20	2657.	0.578	1537.	255.6	2864.	30.6	1274.	15.51	7.4	G
	0.20	1456.	0.756	1102.	140.9	1572.	26.4	1199.	15.25	6.0	H
CLIMB	0.30	8322.	0.429	3573.	741.9	9255.	43.0	1562.	16.82	12.0	I
M.C.	0.30	7911.	0.431	3411.	690.3	8770.	42.3	1537.	16.72	11.7	J
	0.30	7399.	0.435	3218.	628.0	8171.	41.2	1511.	16.58	11.2	K
	0.30	5979.	0.451	2697.	466.8	6541.	38.3	1439.	16.22	10.1	L
	0.30	4673.	0.477	2230.	332.1	5075.	35.3	1372.	15.94	9.0	M
	0.30	3494.	0.519	1812.	220.8	3775.	32.3	1308.	15.69	8.0	N
	0.30	2785.	0.561	1561.	158.2	3003.	30.3	1267.	15.54	7.3	O
	0.30	1550.	0.722	1119.	54.6	1674.	26.2	1192.	15.27	5.9	P
CLIMB	0.40	8701.	0.421	3664.	632.0	9708.	42.5	1556.	16.94	11.8	1
M.C.	0.40	8235.	0.423	3486.	574.5	9154.	41.6	1531.	16.82	11.4	2
	0.40	7693.	0.427	3286.	509.7	8515.	40.6	1505.	16.68	11.0	3
	0.40	6272.	0.440	2758.	356.1	6875.	37.8	1432.	16.33	9.9	4
	0.40	4911.	0.464	2277.	224.0	5341.	34.8	1364.	16.00	8.8	5
	0.40	3697.	0.501	1851.	118.2	3999.	31.9	1299.	15.74	7.8	6
	0.40	2966.	0.538	1595.	59.9	3201.	30.0	1258.	15.58	7.1	7
	0.40	1686.	0.679	1144.	-33.7	1819.	26.0	1183.	15.31	5.9	8
CLIMB	0.50	9135.	0.412	3767.	520.1	10231.	41.7	1549.	17.10	11.5	9
M.C.	0.50	8637.	0.414	3579.	459.3	9632.	40.9	1524.	16.96	11.1	10
	0.50	8091.	0.417	3373.	396.9	8985.	39.9	1497.	16.80	10.7	11
	0.50	6622.	0.427	2830.	243.8	7277.	37.1	1423.	16.41	9.6	12
	0.50	5223.	0.447	2337.	115.1	5692.	34.2	1354.	16.07	8.6	13
	0.50	3963.	0.480	1901.	13.1	4293.	31.4	1289.	15.81	7.6	14
	0.50	3205.	0.511	1639.	-41.5	3463.	29.6	1248.	15.64	7.0	15
	0.50	1864.	0.630	1175.	-126.1	2013.	25.7	1171.	15.35	5.7	16
CLIMB	0.60	9650.	0.403	3884.	409.7	10860.	40.7	1541.	17.28	11.1	17
M.C.	0.60	9140.	0.404	3691.	348.1	10240.	39.9	1516.	17.12	10.7	18
	0.60	8582.	0.405	3477.	285.6	9570.	38.9	1488.	16.96	10.3	19
	0.60	7056.	0.414	2919.	129.3	7780.	36.2	1413.	16.55	9.3	20
	0.60	5613.	0.430	2411.	2.8	6133.	33.5	1342.	16.19	8.3	21
	0.60	4300.	0.456	1961.	-96.0	4667.	30.8	1277.	15.90	7.4	22
	0.60	3501.	0.483	1690.	-148.4	3789.	29.0	1235.	15.72	6.8	23
	0.60	2089.	0.580	1212.	-225.3	2257.	25.3	1158.	15.41	5.6	24
CLIMB	0.70	10272.	0.392	4026.	301.1	11630.	39.6	1532.	17.51	10.6	25
M.C.	0.70	9747.	0.392	3824.	238.3	10982.	38.8	1507.	17.34	10.3	26
	0.70	9176.	0.393	3606.	173.3	10287.	37.9	1478.	17.16	10.0	27
	0.70	7582.	0.399	3022.	12.6	8394.	35.3	1401.	16.71	9.0	28
	0.70	6087.	0.411	2499.	-115.5	6673.	32.7	1330.	16.33	8.1	29
	0.70	4711.	0.431	2033.	-212.0	5126.	30.1	1263.	16.01	7.2	30
	0.70	3858.	0.454	1750.	-263.1	4183.	28.4	1222.	15.81	6.6	31
	0.70	2365.	0.530	1255.	-333.1	2556.	24.8	1143.	15.48	5.4	32
CLIMB	0.75	10623.	0.387	4107.	247.5	12071.	39.1	1528.	17.65	10.4	33
M.C.	0.75	10093.	0.387	3901.	183.2	11410.	38.2	1502.	17.47	10.1	34
	0.75	9511.	0.387	3678.	116.5	10695.	37.4	1473.	17.28	9.8	35
	0.75	7878.	0.391	3079.	-46.9	8744.	34.8	1395.	16.79	8.8	36
	0.75	6354.	0.401	2547.	-175.8	6979.	32.3	1323.	16.41	7.9	37
	0.75	4945.	0.419	2072.	-273.1	5390.	29.8	1256.	16.07	7.0	38
	0.75	4064.	0.439	1783.	-326.0	4410.	28.0	1215.	15.87	6.4	39
	0.75	2524.	0.506	1278.	-390.9	2729.	24.6	1136.	15.52	5.3	40
CLIMB	0.80	11002.	0.381	4193.	194.1	12553.	38.4	1523.	17.79	10.2	41
M.C.	0.80	10468.	0.381	3984.	127.9	11879.	37.7	1497.	17.61	9.9	42
	0.80	9868.	0.380	3754.	59.1	11135.	36.8	1468.	17.41	9.5	43
	0.80	8204.	0.383	3142.	-108.2	9129.	34.3	1389.	16.90	8.6	44
	0.80	6646.	0.391	2599.	-238.6	7315.	31.8	1316.	16.49	7.7	45
	0.80	5199.	0.407	2114.	-336.9	5675.	29.4	1249.	16.14	6.9	46
	0.80	4288.	0.424	1819.	-391.1	4657.	27.7	1207.	15.93	6.3	47
	0.80	2697.	0.483	1302.	-451.9	2919.	24.3	1127.	15.57	5.3	48

DETROIT DIESEL ALLISON DIVISION — EDR 9774 — GENERAL MOTORS CORPORATION

PD370-37 TURBOPROP

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

5000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	7042.	0.433	3049.	771.1	7842.	44.0	1559.	14.04	12.5	0049
M.C.	0.20	6785.	0.433	2939.	736.9	7536.	43.7	1532.	13.98	12.3	0050
	0.20	6471.	0.434	2807.	696.5	7167.	43.1	1502.	13.90	12.0	0051
	0.20	5323.	0.446	2375.	553.9	5840.	40.3	1428.	13.60	10.9	0052
	0.20	4185.	0.470	1968.	423.1	4555.	37.2	1360.	13.33	9.7	0053
	0.20	3146.	0.509	1601.	312.4	3404.	34.0	1296.	13.10	8.5	0054
	0.20	2524.	0.547	1382.	249.4	2723.	31.9	1255.	12.98	7.8	0055
	0.20	1442.	0.691	997.	144.0	1557.	27.7	1179.	12.74	6.4	0056
CLIMB	0.30	7320.	0.426	3120.	678.7	8174.	43.8	1553.	14.13	12.4	0057
M.C.	0.30	7041.	0.426	3002.	642.3	7840.	43.4	1526.	14.06	12.2	0058
	0.30	6699.	0.427	2860.	599.5	7437.	42.8	1497.	13.97	11.9	0059
	0.30	5486.	0.439	2409.	454.1	6028.	39.8	1423.	13.64	10.7	0060
	0.30	4351.	0.460	1999.	329.9	4731.	36.9	1354.	13.39	9.6	0061
	0.30	3273.	0.497	1626.	224.1	3544.	33.7	1290.	13.13	8.4	0062
	0.30	2637.	0.532	1404.	165.3	2848.	31.7	1249.	13.01	7.7	0063
	0.30	1527.	0.663	1013.	69.2	1649.	27.5	1172.	12.77	6.3	0064
CLIMB	0.40	7701.	0.418	3216.	595.4	8635.	43.6	1546.	14.26	12.3	0065
M.C.	0.40	7389.	0.418	3088.	554.6	8258.	43.1	1519.	14.18	12.0	0066
	0.40	6997.	0.419	2929.	505.9	7791.	42.3	1490.	14.06	11.6	0067
	0.40	5732.	0.430	2462.	359.1	6311.	39.3	1416.	13.73	10.5	0068
	0.40	4551.	0.449	2041.	237.7	4968.	36.3	1347.	13.45	9.4	0069
	0.40	3453.	0.481	1661.	136.3	3744.	33.3	1282.	13.19	8.3	0070
	0.40	2797.	0.513	1434.	81.0	3024.	31.3	1241.	13.05	7.6	0071
	0.40	1648.	0.628	1035.	-6.9	1780.	27.2	1163.	12.80	6.2	0072
CLIMB	0.50	8173.	0.408	3334.	516.8	9212.	43.1	1537.	14.42	12.0	0073
M.C.	0.50	7807.	0.408	3187.	469.3	8766.	42.4	1511.	14.32	11.7	0074
	0.50	7348.	0.410	3009.	412.4	8212.	41.5	1483.	14.18	11.3	0075
	0.50	6038.	0.419	2527.	264.7	6668.	38.5	1408.	13.81	10.2	0076
	0.50	4820.	0.435	2095.	144.4	5273.	35.7	1338.	13.52	9.1	0077
	0.50	3691.	0.462	1706.	47.2	4009.	32.8	1272.	13.26	8.1	0078
	0.50	3006.	0.490	1472.	-5.4	3255.	30.8	1231.	13.10	7.4	0079
	0.50	1808.	0.588	1062.	-86.5	1953.	26.9	1153.	12.84	6.1	0080
CLIMB	0.60	8699.	0.398	3463.	437.8	9869.	42.4	1529.	14.61	11.7	0081
M.C.	0.60	8262.	0.399	3293.	380.3	9326.	41.5	1504.	14.48	11.3	0082
	0.60	7763.	0.400	3105.	317.8	8714.	40.5	1475.	14.33	10.9	0083
	0.60	6441.	0.405	2610.	172.0	7140.	37.7	1398.	13.95	9.9	0084
	0.60	5159.	0.419	2161.	50.0	5660.	34.9	1327.	13.61	8.8	0085
	0.60	3987.	0.441	1760.	-45.2	4341.	32.1	1260.	13.34	7.8	0086
	0.60	3269.	0.465	1519.	-97.0	3545.	30.2	1219.	13.17	7.2	0087
	0.60	2009.	0.545	1096.	-171.2	2172.	26.4	1140.	12.89	6.0	0088

DETROIT DIESEL ALLISON DIVISION — PD370-37 TURBOPROP — GENERAL MOTORS CORPORATION

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

10000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	6061.	0.432	2619.	677.6	6770.	44.4	1553.	11.68	12.9	0089
M.C.	0.20	5879.	0.431	2534.	653.1	6551.	44.2	1524.	11.65	12.7	C090
	0.20	5661.	0.430	2435.	625.3	6293.	43.9	1493.	11.59	12.5	0091
	0.20	4867.	0.434	2113.	524.7	5367.	42.1	1411.	11.37	11.6	0092
	0.20	3858.	0.455	1754.	402.5	4215.	38.9	1342.	11.14	10.3	0093
	0.20	2937.	0.487	1430.	300.3	3187.	35.6	1278.	10.92	9.1	0094
	0.20	2376.	0.520	1236.	241.4	2571.	33.4	1236.	10.80	8.3	C095
	0.20	1408.	0.637	897.	144.5	1520.	29.1	1159.	10.59	6.9	0096
CLIMB	0.30	6314.	0.425	2685.	605.7	7075.	44.3	1547.	11.77	12.8	0097
M.C.	0.30	6118.	0.424	2596.	579.1	6839.	44.1	1518.	11.72	12.6	0098
	0.30	5883.	0.423	2491.	548.8	6559.	43.8	1487.	11.66	12.4	0099
	0.30	5012.	0.428	2146.	440.2	5536.	41.6	1406.	11.42	11.4	0100
	0.30	3988.	0.446	1781.	322.4	4363.	38.5	1337.	11.17	10.1	0101
	0.30	3047.	0.477	1453.	224.5	3309.	35.3	1272.	10.95	9.0	0102
	0.30	2474.	0.507	1255.	169.4	2679.	33.1	1231.	10.82	8.2	0103
	0.30	1483.	0.614	911.	80.1	1602.	28.9	1153.	10.61	6.8	0104
CLIMB	0.40	6665.	0.417	2776.	542.0	7503.	44.2	1539.	11.89	12.7	0105
M.C.	0.40	6450.	0.416	2680.	512.8	7241.	43.9	1511.	11.84	12.5	0106
	0.40	6189.	0.415	2566.	478.8	6926.	43.5	1479.	11.76	12.2	0107
	0.40	5215.	0.420	2190.	358.8	5773.	41.0	1401.	11.49	11.1	0108
	0.40	4168.	0.436	1817.	244.0	4568.	37.9	1330.	11.21	9.9	0109
	0.40	3204.	0.463	1484.	149.9	3485.	34.8	1264.	11.00	8.8	0110
	0.40	2614.	0.490	1282.	97.6	2833.	32.7	1223.	10.86	8.1	0111
	0.40	1591.	0.585	930.	14.9	1719.	28.6	1144.	10.64	6.7	0112
CLIMB	0.50	7111.	0.407	2892.	486.0	8056.	43.9	1530.	12.06	12.5	0113
M.C.	0.50	6866.	0.406	2786.	451.9	7753.	43.6	1502.	11.99	12.3	0114
	0.50	6565.	0.405	2658.	411.6	7385.	43.0	1471.	11.90	12.0	0115
	0.50	5479.	0.410	2247.	280.1	6085.	40.2	1393.	11.57	10.8	0116
	0.50	4419.	0.423	1868.	167.7	4856.	37.2	1321.	11.30	9.7	0117
	0.50	3411.	0.446	1522.	74.8	3718.	34.2	1255.	11.04	8.6	0118
	0.50	2798.	0.470	1316.	22.5	3035.	32.2	1213.	10.91	7.9	0119
	0.50	1732.	0.551	955.	-53.0	1873.	28.2	1134.	10.67	6.5	0120
CLIMB	0.60	7637.	0.397	3029.	434.5	8723.	43.5	1521.	12.26	12.2	0121
M.C.	0.60	7349.	0.396	2908.	392.6	8358.	43.0	1493.	12.18	12.0	C122
	0.60	6984.	0.395	2757.	343.9	7902.	42.2	1463.	12.05	11.6	0123
	0.60	5816.	0.399	2319.	202.5	6486.	39.3	1385.	11.69	10.5	0124
	0.60	4715.	0.408	1926.	89.2	5198.	36.4	1311.	11.39	9.4	0125
	0.60	3671.	0.428	1571.	-2.7	4011.	33.5	1244.	11.12	8.3	0126
	0.60	3030.	0.448	1358.	-55.4	3293.	31.5	1202.	10.98	7.6	0127
	0.60	1910.	0.516	985.	-125.0	2067.	27.7	1122.	10.72	6.3	0128
CLIMB	0.70	8222.	0.387	3180.	383.3	9480.	42.8	1512.	12.51	11.9	0129
M.C.	0.70	7863.	0.386	3032.	330.9	9014.	42.1	1485.	12.38	11.6	0130
	0.70	7424.	0.386	2862.	270.1	8455.	41.1	1455.	12.23	11.2	0131
	0.70	6213.	0.387	2403.	124.2	6963.	38.2	1375.	11.82	10.1	0132
	0.70	5067.	0.394	1995.	7.5	5608.	35.5	1301.	11.50	9.0	0133
	0.70	3988.	0.408	1628.	-84.1	4371.	32.7	1232.	11.22	8.0	0134
	0.70	3314.	0.425	1407.	-135.5	3611.	30.8	1189.	11.06	7.4	0135
	0.70	2126.	0.479	1019.	-202.5	2305.	27.1	1109.	10.78	6.1	0136
CLIMB	0.75	8512.	0.382	3253.	354.1	9861.	42.3	1509.	12.65	11.7	0137
M.C.	0.75	8119.	0.381	3094.	296.8	9347.	41.4	1481.	12.49	11.3	0138
	0.75	7664.	0.381	2917.	233.4	8761.	40.4	1452.	12.32	10.9	C139
	0.75	6452.	0.380	2452.	86.1	7254.	37.7	1370.	11.91	9.9	0140
	0.75	5268.	0.386	2033.	-34.3	5844.	35.0	1295.	11.56	8.8	0141
	0.75	4165.	0.398	1660.	-127.8	4572.	32.3	1225.	11.27	7.9	0142
	0.75	3476.	0.413	1435.	-177.5	3794.	30.4	1182.	11.10	7.2	0143
	0.75	2250.	0.461	1038.	-243.7	2441.	26.8	1102.	10.81	6.0	0144
CLIMB	0.80	8802.	0.378	3326.	323.2	10249.	41.7	1505.	12.78	11.4	0145
M.C.	0.80	8387.	0.377	3160.	260.8	9697.	40.8	1478.	12.62	11.1	0146
	0.80	7927.	0.375	2975.	198.3	9100.	39.8	1448.	12.43	10.7	0147
	0.80	6690.	0.374	2502.	46.0	7547.	37.1	1365.	12.00	9.6	0148
	0.80	5485.	0.378	2073.	-76.4	6101.	34.4	1289.	11.62	8.6	0149
	0.80	4358.	0.388	1693.	-172.8	4792.	31.8	1219.	11.33	7.7	0150
	0.80	3653.	0.401	1464.	-221.1	3994.	30.0	1175.	11.15	7.1	0151
	0.80	2386.	0.444	1058.	-287.1	2591.	26.4	1094.	10.85	5.9	G152

PD370-37 TURBOPROP

ZERO BLEED 100 PERCENT RECOVERY ZERO POWER EXTRACTION

STD DAY

15000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.30	5364.	0.425	2282.	529.5	6028.	44.5	1542.	9.72	13.1	0153
M.C.	0.30	5221.	0.424	2213.	509.8	5855.	44.4	1513.	9.69	12.9	0154
	0.30	5058.	0.422	2133.	488.8	5659.	44.3	1480.	9.64	12.7	0155
	0.30	4479.	0.420	1882.	414.7	4973.	43.1	1393.	9.49	12.0	0156
	0.30	3636.	0.434	1577.	312.4	3995.	40.2	1320.	9.27	10.8	0157
	0.30	2812.	0.459	1291.	222.1	3065.	36.9	1254.	9.07	9.5	0158
	0.30	2302.	0.485	1117.	168.9	2498.	34.7	1213.	8.95	8.7	0159
	0.30	1419.	0.573	814.	87.4	1534.	30.3	1134.	8.76	7.2	0160
CLIMB	0.40	5672.	0.417	2365.	482.1	6409.	44.5	1534.	9.83	13.0	0161
M.C.	0.40	5523.	0.415	2291.	460.9	6224.	44.4	1504.	9.79	12.8	0162
	0.40	5337.	0.413	2205.	435.4	5998.	44.1	1472.	9.75	12.6	0163
	0.40	4694.	0.412	1932.	352.8	5228.	42.7	1386.	9.56	11.8	0164
	0.40	3795.	0.424	1610.	246.8	4179.	39.6	1314.	9.32	10.6	0165
	0.40	2950.	0.447	1318.	159.2	3221.	36.4	1247.	9.10	9.4	0166
	0.40	2425.	0.470	1140.	107.2	2633.	34.2	1205.	8.99	8.6	0167
	0.40	1515.	0.549	831.	32.0	1639.	29.9	1126.	8.78	7.1	0168
CLIMB	0.50	6069.	0.407	2472.	441.8	6905.	44.4	1525.	9.99	12.8	0169
M.C.	0.50	5900.	0.405	2391.	416.8	6693.	44.2	1495.	9.94	12.7	0170
	0.50	5696.	0.403	2297.	388.1	6440.	43.9	1463.	9.88	12.4	0171
	0.50	4945.	0.402	1989.	290.7	5529.	42.0	1379.	9.64	11.5	0172
	0.50	4007.	0.413	1654.	182.9	4425.	38.9	1306.	9.39	10.3	0173
	0.50	3133.	0.432	1353.	96.6	3427.	35.7	1238.	9.16	9.1	0174
	0.50	2587.	0.453	1171.	45.4	2814.	33.6	1196.	9.03	8.4	0175
	0.50	1639.	0.521	853.	-25.5	1776.	29.5	1116.	8.82	6.9	0176
CLIMB	0.60	6553.	0.397	2602.	408.8	7525.	44.1	1515.	10.18	12.7	0177
M.C.	0.60	6357.	0.395	2511.	378.9	7274.	43.9	1486.	10.12	12.4	0178
	0.60	6118.	0.393	2404.	344.0	6972.	43.4	1454.	10.04	12.2	0179
	0.60	5225.	0.393	2052.	226.4	5868.	41.0	1371.	9.75	11.1	0180
	0.60	4260.	0.400	1706.	118.2	4722.	38.0	1297.	9.46	9.9	C181
	0.60	3356.	0.416	1396.	30.8	3681.	35.0	1228.	9.23	8.8	0182
	0.60	2789.	0.433	1208.	-17.4	3042.	32.9	1185.	9.09	8.1	0183
	0.60	1796.	0.490	880.	-85.9	1947.	28.9	1104.	8.86	6.7	0184
CLIMB	0.70	7109.	0.387	2752.	381.0	8258.	43.8	1506.	10.43	12.4	0185
M.C.	0.70	6876.	0.385	2647.	343.3	7949.	43.4	1477.	10.35	12.2	0186
	0.70	6585.	0.383	2520.	300.0	7571.	42.7	1445.	10.24	11.8	0187
	0.70	5565.	0.382	2126.	163.6	6285.	39.9	1363.	9.88	10.7	0188
	0.70	4579.	0.386	1769.	53.5	5099.	37.0	1287.	9.57	9.6	0189
	0.70	3627.	0.399	1445.	-37.3	3990.	34.1	1216.	9.30	8.5	0190
	0.70	3036.	0.412	1251.	-83.4	3322.	32.2	1173.	9.16	7.8	0191
	0.70	1987.	0.458	911.	-150.6	2159.	28.3	1092.	8.91	6.5	0192
CLIMB	0.75	7411.	0.382	2832.	368.1	8663.	43.5	1502.	10.58	12.2	0193
M.C.	0.75	7151.	0.380	2719.	325.2	8314.	43.0	1473.	10.48	12.0	0194
	0.75	6820.	0.378	2578.	275.6	7878.	42.2	1442.	10.34	11.6	0195
	0.75	5761.	0.377	2169.	132.5	6529.	39.3	1359.	9.95	10.5	C196
	0.75	4753.	0.379	1803.	19.7	5306.	36.5	1281.	9.63	9.4	0197
	0.75	3780.	0.390	1473.	-72.9	4167.	33.6	1210.	9.36	8.3	0198
	0.75	3177.	0.402	1276.	-118.2	3482.	31.8	1167.	9.21	7.7	C199
	0.75	2097.	0.443	928.	-185.1	2280.	28.0	1085.	8.94	6.4	0200
CLIMB	0.80	7722.	0.378	2915.	355.1	9089.	43.2	1498.	10.73	12.1	0201
M.C.	0.80	7427.	0.375	2788.	306.8	8687.	42.5	1469.	10.61	11.8	0202
	0.80	7052.	0.374	2635.	249.2	8185.	41.6	1438.	10.45	11.4	0203
	0.80	5962.	0.371	2213.	101.1	6782.	38.6	1354.	10.03	10.2	0204
	0.80	4935.	0.373	1840.	-15.3	5525.	35.9	1276.	9.70	9.2	0205
	0.80	3947.	0.381	1503.	-109.4	4359.	33.1	1204.	9.41	8.2	0206
	0.80	3330.	0.391	1301.	-153.9	3657.	31.3	1160.	9.25	7.5	0207
	0.80	2217.	0.427	946.	-221.1	2413.	27.6	1077.	8.97	6.3	0208

DETROIT DIESEL ALLISON DIVISION | EDR 9774 | GENERAL MOTORS CORPORATION

ZERO BLEED

PD370-37 TURBOPROP

100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

20000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.40	4765.	0.418	1992.	420.6	5401.	44.6	1530.	8.06	13.3	0209
M.C.	0.40	4658.	0.416	1933.	403.8	5258.	44.6	1500.	8.03	13.1	0210
	0.40	4520.	0.413	1867.	386.1	5098.	44.5	1467.	8.00	12.9	0211
	0.40	4079.	0.408	1665.	327.3	4565.	43.8	1376.	7.87	12.3	0212
	0.40	3430.	0.414	1419.	266.4	3799.	41.4	1298.	7.69	11.3	0213
	0.40	2694.	0.432	1164.	164.1	2954.	38.1	1230.	7.51	10.0	0214
	0.40	2232.	0.452	1009.	116.4	2433.	35.9	1188.	7.39	9.2	0215
	0.40	1423.	0.518	737.	45.1	1542.	31.4	1107.	7.20	7.6	0216
CLIMB	0.50	5105.	0.408	2085.	391.9	5830.	44.6	1521.	8.20	13.1	0217
M.C.	0.50	4981.	0.406	2023.	373.3	5673.	44.5	1491.	8.16	13.0	0218
	0.50	4839.	0.403	1951.	352.9	5496.	44.5	1457.	8.12	12.8	0219
	0.50	4341.	0.398	1728.	284.2	4884.	43.4	1360.	7.97	12.1	0220
	0.50	3605.	0.404	1456.	193.0	4004.	40.6	1291.	7.75	11.0	0221
	0.50	2848.	0.420	1195.	110.8	3128.	37.2	1222.	7.54	9.7	0222
	0.50	2373.	0.437	1036.	65.7	2591.	35.2	1179.	7.43	8.9	0223
	0.50	1532.	0.494	757.	-3.0	1663.	30.9	1098.	7.23	7.4	0224
CLIMB	0.60	5525.	0.399	2202.	371.5	6374.	44.5	1511.	8.38	13.0	0225
M.C.	0.60	5390.	0.396	2133.	350.2	6200.	44.4	1481.	8.33	12.8	0226
	0.60	5224.	0.393	2054.	324.1	5986.	44.2	1448.	8.28	12.6	0227
	0.60	4654.	0.388	1801.	241.7	5258.	42.8	1359.	8.08	11.8	0228
	0.60	3825.	0.393	1502.	140.7	4266.	39.7	1283.	7.83	10.6	0229
	0.60	3047.	0.405	1233.	57.5	3357.	36.6	1212.	7.62	9.4	0230
	0.60	2549.	0.419	1068.	13.6	2791.	34.5	1168.	7.48	8.6	0231
	0.60	1671.	0.467	781.	-53.3	1816.	30.3	1087.	7.27	7.2	0232
CLIMB	0.70	6022.	0.389	2340.	358.4	7037.	44.3	1502.	8.61	12.8	0233
M.C.	0.70	5863.	0.386	2263.	331.1	6824.	44.1	1472.	8.55	12.6	0234
	0.70	5671.	0.383	2172.	299.8	6569.	43.8	1439.	8.48	12.4	0235
	0.70	4954.	0.378	1875.	195.2	5648.	41.7	1351.	8.21	11.4	0236
	0.70	4093.	0.381	1558.	88.4	4589.	38.6	1273.	7.92	10.2	0237
	0.70	3276.	0.390	1277.	1.6	3622.	35.6	1202.	7.69	9.1	0238
	0.70	2761.	0.401	1107.	-40.6	3034.	33.6	1157.	7.55	8.3	0239
	0.70	1840.	0.440	809.	-106.9	2004.	29.6	1074.	7.32	7.0	0240
CLIMB	0.75	6298.	0.384	2417.	354.4	7414.	44.2	1497.	8.75	12.7	0241
M.C.	0.75	6125.	0.381	2334.	323.7	7177.	43.9	1467.	8.68	12.5	0242
	0.75	5911.	0.378	2235.	288.3	6890.	43.5	1434.	8.59	12.2	0243
	0.75	5116.	0.373	1910.	170.4	5853.	41.1	1348.	8.28	11.2	0244
	0.75	4238.	0.375	1588.	61.7	4765.	38.1	1269.	7.97	10.0	0245
	0.75	3407.	0.382	1302.	-26.4	3775.	35.1	1196.	7.73	8.9	0246
	0.75	2881.	0.391	1128.	-69.0	3173.	33.2	1151.	7.58	8.2	0247
	0.75	1937.	0.426	824.	-135.3	2112.	29.3	1068.	7.35	6.8	0248
CLIMB	0.80	6590.	0.379	2498.	351.8	7820.	44.0	1493.	8.90	12.5	0249
M.C.	0.80	6398.	0.376	2408.	317.1	7553.	43.7	1463.	8.82	12.3	0250
	0.80	6159.	0.373	2300.	276.5	7227.	43.1	1430.	8.72	12.0	0251
	0.80	5289.	0.369	1949.	146.3	6077.	40.4	1344.	8.36	10.9	0252
	0.80	4412.	0.368	1623.	36.0	4977.	37.5	1264.	8.05	9.8	0253
	0.80	3549.	0.374	1328.	-54.7	3943.	34.6	1190.	7.78	8.7	0254
	0.80	3013.	0.382	1151.	-98.2	3325.	32.7	1145.	7.63	8.0	0255
	0.80	2042.	0.412	841.	-164.8	2229.	28.9	1061.	7.38	6.7	0256

DETROIT DIESEL ALLISON DIVISION

EDR 9774

GENERAL MOTORS CORPORATION

ZERO BLEED

PD370-37 TURBOPROP

100 PERCENT RECOVERY

ZERO POWER EXTRACTION

STD DAY

25000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WFL	FN	FSHP	WCIN	TNOZ	PNOZ	RC	NO
INTFR	0.40	3961.	0.419	1661.	362.5	4503.	44.6	1526.	6.55	13.5	Q
M.C.	0.40	3872.	0.417	1615.	349.2	4392.	44.6	1496.	6.53	13.4	R
	0.40	3769.	0.414	1561.	334.8	4265.	44.6	1462.	6.50	13.2	S
	0.40	3458.	0.407	1407.	292.5	3886.	44.3	1369.	6.41	12.7	T
	0.40	3040.	0.406	1233.	238.2	3387.	43.1	1284.	6.30	12.0	U
	0.40	2430.	0.420	1023.	163.6	2674.	39.9	1213.	6.14	10.7	V
	0.40	2035.	0.436	887.	122.5	2228.	37.6	1170.	6.03	9.8	W
	0.40	1322.	0.492	650.	54.8	1437.	33.0	1089.	5.87	8.1	X
INTFR	0.50	4243.	0.410	1741.	342.3	4863.	44.6	1517.	6.67	13.4	257
M.C.	0.50	4149.	0.408	1691.	327.6	4743.	44.6	1487.	6.64	13.3	258
	0.50	4040.	0.405	1635.	311.3	4606.	44.6	1453.	6.61	13.1	259
	0.50	3703.	0.397	1468.	262.9	4183.	44.1	1360.	6.50	12.6	260
	0.50	3218.	0.396	1273.	199.0	3600.	42.5	1276.	6.36	11.7	261
	0.50	2563.	0.408	1047.	126.6	2829.	39.1	1206.	6.17	10.4	262
	0.50	2157.	0.422	913.	80.7	2367.	36.9	1162.	6.07	9.5	263
	0.50	1418.	0.471	667.	14.9	1543.	32.4	1080.	5.89	7.9	264
INTFR	0.60	4596.	0.401	1841.	329.6	5323.	44.6	1508.	6.82	13.3	265
M.C.	0.60	4493.	0.398	1787.	312.8	5190.	44.6	1478.	6.79	13.1	266
	0.60	4377.	0.394	1726.	294.5	5040.	44.5	1444.	6.75	13.0	267
	0.60	3986.	0.387	1541.	235.2	4542.	43.8	1351.	6.62	12.4	268
	0.60	3409.	0.386	1316.	157.6	3832.	41.6	1268.	6.43	11.3	269
	0.60	2734.	0.396	1081.	78.0	3028.	38.3	1197.	6.24	10.1	270
	0.60	2308.	0.407	939.	38.1	2541.	36.1	1152.	6.12	9.2	271
	0.60	1539.	0.447	688.	-26.6	1677.	31.8	1069.	5.93	7.7	272
INTER	0.70	5020.	0.391	1962.	325.2	5895.	44.5	1498.	7.03	13.1	273
M.C.	0.70	4906.	0.388	1903.	305.0	5741.	44.5	1468.	6.99	13.0	274
	0.70	4775.	0.384	1835.	282.9	5566.	44.3	1434.	6.94	12.8	275
	0.70	4313.	0.376	1622.	209.3	4961.	43.3	1342.	6.76	12.1	276
	0.70	3630.	0.376	1364.	115.7	4102.	40.4	1261.	6.52	10.9	277
	0.70	2931.	0.382	1120.	34.9	3262.	37.3	1187.	6.30	9.7	278
	0.70	2490.	0.391	972.	-5.8	2751.	35.2	1141.	6.17	8.9	279
	0.70	1685.	0.423	713.	-70.4	1841.	31.1	1057.	5.97	7.4	280
INTER	0.75	5259.	0.386	2031.	326.2	6226.	44.5	1494.	7.15	13.0	281
M.C.	0.75	5139.	0.383	1968.	304.7	6062.	44.4	1463.	7.11	12.9	282
	0.75	4995.	0.379	1895.	279.1	5865.	44.2	1430.	7.05	12.7	283
	0.75	4485.	0.371	1665.	196.0	5186.	42.9	1338.	6.84	11.9	284
	0.75	3755.	0.370	1391.	94.6	4258.	39.8	1257.	6.57	10.7	285
	0.75	3050.	0.375	1143.	13.5	3404.	36.8	1182.	6.35	9.5	286
	0.75	2593.	0.382	991.	-28.7	2871.	34.7	1136.	6.21	8.7	287
	0.75	1770.	0.411	727.	-93.7	1936.	30.7	1051.	5.99	7.3	288
INTER	0.80	5515.	0.382	2104.	329.6	6588.	44.4	1490.	7.29	12.9	289
M.C.	0.80	5386.	0.378	2037.	305.2	6407.	44.3	1459.	7.24	12.7	290
	0.80	5226.	0.375	1959.	275.4	6183.	44.0	1425.	7.17	12.5	291
	0.80	4654.	0.367	1706.	181.4	5411.	42.3	1334.	6.92	11.6	292
	0.80	3895.	0.365	1421.	73.7	4432.	39.2	1252.	6.63	10.4	293
	0.80	3171.	0.368	1166.	-8.9	3549.	36.2	1177.	6.39	9.3	294
	0.80	2705.	0.374	1011.	-52.0	3002.	34.2	1130.	6.25	8.5	295
	0.80	1861.	0.399	742.	-117.8	2039.	30.3	1044.	6.02	7.1	296

DETROIT DIESEL ALLISON DIVISION | EDR 9774 | GENERAL MOTORS CORPORATION

PD370-37 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

30000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	3493.	0.412	1440.	295.6	4019.	44.6	1514.	5.38	13.7	0297
M.C.	0.50	3419.	0.409	1400.	283.5	3922.	44.6	1484.	5.36	13.6	0298
	0.50	3333.	0.406	1354.	270.3	3813.	44.6	1450.	5.33	13.4	0299
	0.50	3081.	0.398	1225.	233.2	3497.	44.5	1355.	5.26	12.9	0300
	0.50	2765.	0.393	1085.	189.5	3111.	43.7	1266.	5.16	12.3	0301
	0.50	2288.	0.399	912.	128.1	2542.	41.1	1190.	5.02	11.1	0302
	0.50	1940.	0.409	794.	90.9	2141.	38.8	1145.	4.93	10.2	0303
	0.50	1302.	0.449	585.	29.0	1421.	34.1	1062.	4.77	8.5	0304
CLIMB	0.60	3781.	0.403	1523.	288.0	4397.	44.6	1505.	5.51	13.5	0305
M.C.	0.60	3701.	0.400	1481.	274.6	4293.	44.6	1475.	5.48	13.4	0306
	0.60	3611.	0.397	1432.	259.6	4174.	44.6	1440.	5.45	13.3	0307
	0.60	3337.	0.387	1292.	216.6	3822.	44.4	1345.	5.36	12.8	0308
	0.60	2971.	0.382	1134.	163.5	3365.	43.2	1257.	5.24	12.0	0309
	0.60	2429.	0.387	941.	94.4	2710.	40.1	1182.	5.07	10.8	0310
	0.60	2069.	0.396	819.	56.6	2290.	37.9	1136.	4.97	9.9	0311
	0.60	1403.	0.430	603.	-5.0	1534.	33.4	1052.	4.79	8.2	0312
CLIMB	0.70	4131.	0.394	1626.	288.5	4874.	44.6	1496.	5.68	13.4	0313
M.C.	0.70	4044.	0.390	1579.	272.7	4756.	44.6	1465.	5.65	13.3	0314
	0.70	3946.	0.387	1526.	255.3	4623.	44.6	1431.	5.62	13.1	0315
	0.70	3636.	0.377	1370.	203.5	4212.	44.1	1336.	5.50	12.6	0316
	0.70	3191.	0.372	1186.	135.0	3640.	42.4	1249.	5.34	11.6	0317
	0.70	2596.	0.376	975.	60.5	2911.	39.1	1173.	5.13	10.3	0318
	0.70	2224.	0.382	849.	21.7	2472.	36.9	1126.	5.02	9.5	0319
	0.70	1529.	0.408	624.	-40.7	1676.	32.6	1040.	4.83	7.9	0320
CLIMB	0.75	4329.	0.389	1684.	292.0	5152.	44.6	1492.	5.79	13.3	0321
M.C.	0.75	4239.	0.386	1635.	274.8	5027.	44.6	1461.	5.76	13.2	0322
	0.75	4137.	0.382	1580.	256.1	4885.	44.5	1426.	5.71	13.0	0323
	0.75	3797.	0.372	1412.	197.0	4427.	43.9	1331.	5.58	12.4	0324
	0.75	3301.	0.367	1211.	119.8	3780.	41.8	1245.	5.38	11.4	0325
	0.75	2695.	0.369	995.	43.7	3031.	38.5	1169.	5.17	10.1	0326
	0.75	2312.	0.374	866.	3.5	2576.	36.4	1121.	5.05	9.3	0327
	0.75	1600.	0.398	636.	-59.3	1757.	32.1	1034.	4.85	7.8	0328
CLIMB	0.80	4545.	0.385	1748.	297.8	5461.	44.6	1487.	5.91	13.2	0329
M.C.	0.80	4450.	0.381	1696.	278.9	5324.	44.5	1457.	5.87	13.1	0330
	0.80	4341.	0.377	1637.	258.4	5171.	44.4	1422.	5.83	12.9	0331
	0.80	3968.	0.367	1457.	191.7	4659.	43.6	1327.	5.67	12.3	0332
	0.80	3414.	0.362	1236.	104.0	3925.	41.1	1242.	5.44	11.2	0333
	0.80	2798.	0.363	1016.	26.4	3158.	38.0	1164.	5.21	9.9	0334
	0.80	2405.	0.367	883.	-15.0	2687.	35.8	1116.	5.08	9.1	0335
	0.80	1678.	0.387	649.	-78.7	1846.	31.7	1028.	4.88	7.6	0336

PD370-37 TURBOPROP

ZERO BLEED 100 PERCENT RECOVERY ZERO POWER EXTRACTION

STD DAY

35000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	2849.	0.414	1180.	252.5	3290.	44.6	1512.	4.30	14.0	0337
M.C.	0.50	2789.	0.411	1147.	242.8	3212.	44.6	1481.	4.28	13.8	0338
	0.50	2721.	0.408	1111.	231.7	3124.	44.6	1447.	4.26	13.7	0339
	0.50	2524.	0.399	1008.	202.0	2875.	44.6	1351.	4.20	13.3	0340
	0.50	2305.	0.392	904.	170.6	2605.	44.3	1259.	4.14	12.7	0341
	0.50	2008.	0.391	784.	130.6	2247.	43.0	1175.	4.05	11.9	0342
	0.50	1724.	0.398	687.	96.8	1914.	40.7	1129.	3.97	11.0	0343
	0.50	1181.	0.431	508.	39.3	1293.	35.9	1044.	3.82	9.1	0344
CLIMB	0.60	3080.	0.405	1249.	249.0	3599.	44.6	1503.	4.40	13.8	0345
M.C.	0.60	3017.	0.402	1214.	237.7	3514.	44.6	1472.	4.38	13.7	0346
	0.60	2946.	0.399	1175.	225.6	3419.	44.6	1438.	4.36	13.6	0347
	0.60	2737.	0.389	1065.	191.8	3149.	44.6	1341.	4.29	13.1	0348
	0.60	2493.	0.381	951.	153.8	2839.	44.1	1250.	4.21	12.5	C349
	0.60	2138.	0.380	813.	105.8	2405.	42.2	1168.	4.10	11.5	0350
	0.60	1830.	0.387	708.	69.4	2039.	39.8	1121.	4.00	10.6	0351
	0.60	1266.	0.413	524.	12.0	1391.	35.1	1034.	3.84	8.8	0352
CLIMB	0.70	3362.	0.396	1333.	251.8	3986.	44.6	1494.	4.55	13.7	0353
M.C.	0.70	3295.	0.393	1296.	239.3	3893.	44.6	1463.	4.52	13.6	0354
	0.70	3219.	0.389	1254.	225.3	3789.	44.6	1428.	4.50	13.4	0355
	0.70	2992.	0.379	1134.	185.8	3486.	44.5	1332.	4.41	12.9	0356
	0.70	2709.	0.371	1004.	138.7	3115.	43.7	1240.	4.31	12.3	0357
	0.70	2280.	0.370	844.	79.7	2579.	41.1	1160.	4.15	11.1	0358
	0.70	1965.	0.374	735.	42.5	2200.	38.8	1112.	4.05	10.2	0359
	0.70	1374.	0.395	543.	-16.4	1514.	34.3	1024.	3.88	8.5	0360
CLIMB	0.75	3523.	0.392	1381.	256.4	4215.	44.6	1490.	4.64	13.6	0361
M.C.	0.75	3453.	0.389	1342.	242.8	4116.	44.6	1459.	4.61	13.5	0362
	0.75	3374.	0.385	1299.	227.7	4005.	44.6	1424.	4.58	13.3	0363
	0.75	3136.	0.374	1173.	184.5	3680.	44.4	1327.	4.49	12.8	0364
	0.75	2825.	0.366	1033.	131.3	3266.	43.4	1236.	4.36	12.1	0365
	0.75	2359.	0.365	861.	66.6	2678.	40.5	1156.	4.19	10.9	0366
	0.75	2038.	0.368	749.	28.6	2288.	38.2	1107.	4.08	10.0	0367
	0.75	1433.	0.386	553.	-31.4	1581.	33.8	1018.	3.90	8.4	0368
CLIMB	0.80	3698.	0.388	1434.	263.3	4468.	44.6	1486.	4.74	13.5	0369
M.C.	0.80	3626.	0.384	1393.	248.4	4363.	44.6	1455.	4.71	13.4	0370
	0.80	3543.	0.380	1348.	232.0	4245.	44.6	1420.	4.68	13.2	0371
	0.80	3289.	0.369	1214.	184.4	3892.	44.3	1323.	4.57	12.7	0372
	0.80	2944.	0.361	1062.	123.9	3425.	43.0	1232.	4.42	11.9	0373
	0.80	2444.	0.359	878.	53.5	2784.	39.8	1152.	4.23	10.6	0374
	0.80	2117.	0.361	765.	14.6	2384.	37.6	1102.	4.11	9.8	0375
	0.80	1498.	0.377	564.	-46.7	1656.	33.3	1012.	3.92	8.2	0376

DETROIT DIESEL ALLISON DIVISION | EDR 9774 | GENERAL MOTORS CORPORATION

PD370-37 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTICN

STD DAY

40000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	2256.	0.415	935.	202.0	2607.	44.6	1511.	3.39	14.0	0377
M.C.	0.50	2208.	0.412	909.	194.0	2545.	44.6	1481.	3.37	13.9	0378
	0.50	2154.	0.409	880.	185.5	2475.	44.6	1446.	3.35	13.8	0379
	0.50	1999.	0.400	799.	161.9	2279.	44.6	1350.	3.31	13.3	0380
	0.50	1831.	0.392	718.	137.6	2071.	44.4	1258.	3.26	12.8	0381
	0.50	1606.	0.390	626.	107.0	1800.	43.3	1173.	3.19	12.0	0382
	0.50	1391.	0.396	551.	80.9	1546.	41.2	1125.	3.13	11.1	0383
	0.50	956.	0.427	408.	34.1	1048.	36.3	1040.	3.01	9.3	0384
CLIMB	0.60	2438.	0.406	990.	199.6	2852.	44.6	1503.	3.47	13.9	0385
M.C.	0.60	2388.	0.403	962.	190.6	2784.	44.6	1472.	3.46	13.8	0386
	0.60	2332.	0.399	931.	181.0	2709.	44.6	1437.	3.44	13.6	0387
	0.60	2168.	0.390	845.	154.2	2496.	44.6	1341.	3.38	13.2	0388
	0.60	1981.	0.382	756.	124.8	2258.	44.2	1248.	3.32	12.6	0389
	0.60	1717.	0.379	651.	88.6	1935.	42.6	1165.	3.24	11.7	0390
	0.60	1475.	0.385	568.	59.5	1647.	40.2	1117.	3.16	10.8	0391
	0.60	1025.	0.410	420.	12.5	1126.	35.5	1030.	3.03	9.0	C392
CLIMB	0.70	2660.	0.397	1056.	202.3	3158.	44.6	1494.	3.59	13.7	0393
M.C.	0.70	2607.	0.394	1027.	192.3	3084.	44.6	1463.	3.57	13.6	C394
	0.70	2547.	0.390	994.	181.2	3002.	44.6	1428.	3.54	13.5	0395
	0.70	2371.	0.379	900.	150.2	2765.	44.5	1331.	3.48	13.0	0396
	0.70	2156.	0.371	800.	113.9	2482.	43.9	1239.	3.40	12.4	0397
	0.70	1834.	0.369	677.	68.9	2080.	41.5	1157.	3.28	11.3	C398
	0.70	1582.	0.373	589.	38.3	1775.	39.2	1109.	3.20	10.4	C399
	0.70	1111.	0.392	436.	-9.9	1225.	34.6	1020.	3.06	8.7	0400
CLIMB	0.75	2787.	0.393	1095.	206.1	3338.	44.6	1489.	3.66	13.7	0401
M.C.	0.75	2732.	0.389	1064.	195.3	3260.	44.6	1458.	3.64	13.5	0402
	0.75	2670.	0.385	1029.	183.5	3173.	44.6	1423.	3.61	13.4	0403
	0.75	2485.	0.375	931.	149.6	2920.	44.5	1327.	3.54	12.9	0404
	0.75	2250.	0.366	823.	108.9	2607.	43.6	1235.	3.45	12.2	0405
	0.75	1897.	0.364	690.	58.8	2158.	40.9	1154.	3.31	11.1	0406
	0.75	1640.	0.366	601.	27.5	1845.	38.6	1104.	3.22	10.2	0407
	0.75	1158.	0.383	444.	-21.5	1280.	34.1	1015.	3.08	8.5	0408
CLIMB	0.80	2925.	0.389	1136.	211.9	3538.	44.6	1485.	3.74	13.6	0409
M.C.	0.80	2869.	0.385	1105.	200.2	3456.	44.6	1454.	3.72	13.4	0410
	0.80	2804.	0.381	1068.	187.2	3363.	44.6	1419.	3.69	13.3	0411
	0.80	2608.	0.370	964.	150.1	3090.	44.4	1322.	3.60	12.8	0412
	0.80	2349.	0.361	848.	103.8	2737.	43.3	1231.	3.50	12.1	0413
	0.80	1964.	0.359	705.	48.6	2243.	40.3	1150.	3.34	10.8	0414
	0.80	1703.	0.360	614.	16.6	1922.	38.0	1100.	3.25	9.9	0415
	0.80	1209.	0.375	453.	-33.7	1338.	33.6	1009.	3.09	8.3	0416

DETROIT DIESEL ALLISON DIVISION | EDR 9774 | GENERAL MOTORS CORPORATICN

PD370-37 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

45000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	1774.	0.415	736.	158.9	2051.	44.6	1511.	2.66	14.0	0417
M.C.	0.50	1737.	0.412	715.	152.5	2001.	44.6	1481.	2.65	13.9	0418
	0.50	1694.	0.409	692.	145.9	1947.	44.6	1446.	2.64	13.8	0419
	0.50	1572.	0.400	628.	127.3	1792.	44.6	1350.	2.60	13.3	0420
	0.50	1439.	0.392	565.	108.1	1628.	44.4	1258.	2.56	12.8	0421
	0.50	1263.	0.390	492.	84.2	1416.	43.3	1173.	2.51	12.0	0422
	0.50	1094.	0.396	433.	63.7	1216.	41.2	1125.	2.46	11.1	0423
	0.50	752.	0.427	321.	26.8	824.	36.3	1040.	2.37	9.3	0424
CLIMB	0.60	1917.	0.406	778.	156.9	2242.	44.6	1503.	2.73	13.9	0425
M.C.	0.60	1878.	0.403	757.	149.9	2189.	44.6	1472.	2.72	13.8	0426
	0.60	1833.	0.399	732.	142.3	2130.	44.6	1437.	2.70	13.6	0427
	0.60	1705.	0.390	664.	121.3	1963.	44.6	1341.	2.66	13.2	0428
	0.60	1558.	0.382	594.	98.1	1776.	44.2	1248.	2.61	12.6	C429
	0.60	1350.	0.379	512.	69.7	1522.	42.6	1165.	2.55	11.7	0430
	0.60	1160.	0.385	447.	46.8	1295.	40.2	1117.	2.48	10.8	0431
	0.60	806.	0.410	331.	9.8	886.	35.5	1030.	2.38	9.0	0432
CLIMB	0.70	2092.	0.397	831.	159.0	2483.	44.6	1494.	2.82	13.7	0433
M.C.	0.70	2050.	0.394	808.	151.2	2425.	44.6	1463.	2.81	13.6	0434
	0.70	2003.	0.390	781.	142.5	2361.	44.6	1428.	2.79	13.5	0435
	0.70	1864.	0.379	707.	118.1	2174.	44.5	1331.	2.74	13.0	0436
	0.70	1695.	0.371	629.	89.6	1952.	43.9	1239.	2.67	12.4	0437
	0.70	1442.	0.369	532.	54.2	1635.	41.5	1157.	2.58	11.3	0438
	0.70	1244.	0.373	464.	30.1	1395.	39.2	1109.	2.52	10.4	0439
	0.70	872.	0.393	342.	-7.8	962.	34.6	1020.	2.41	8.7	0440
CLIMB	0.75	2192.	0.393	861.	162.1	2625.	44.6	1489.	2.88	13.7	0441
M.C.	0.75	2149.	0.389	837.	153.6	2564.	44.6	1458.	2.86	13.5	0442
	0.75	2100.	0.386	810.	144.2	2495.	44.6	1423.	2.84	13.4	0443
	0.75	1954.	0.375	732.	117.7	2296.	44.5	1327.	2.78	12.9	0444
	0.75	1769.	0.366	648.	85.6	2050.	43.6	1235.	2.71	12.2	0445
	0.75	1492.	0.364	543.	46.2	1697.	40.9	1154.	2.60	11.0	0446
	0.75	1290.	0.366	473.	21.6	1451.	38.6	1104.	2.53	10.2	0447
	0.75	911.	0.383	349.	-16.9	1006.	34.1	1015.	2.42	8.5	0448
CLIMB	0.80	2300.	0.389	894.	166.6	2783.	44.6	1485.	2.94	13.6	0449
M.C.	0.80	2256.	0.385	869.	157.4	2718.	44.6	1454.	2.92	13.4	0450
	0.80	2205.	0.381	840.	147.2	2645.	44.6	1419.	2.90	13.3	0451
	0.80	2051.	0.370	758.	118.0	2430.	44.4	1322.	2.83	12.8	0452
	0.80	1847.	0.361	667.	81.6	2153.	43.3	1231.	2.75	12.1	C453
	0.80	1544.	0.359	554.	38.3	1764.	40.3	1150.	2.63	10.8	0454
	0.80	1340.	0.360	482.	13.0	1512.	38.0	1100.	2.55	9.9	0455
	0.80	951.	0.375	356.	-26.5	1052.	33.6	1009.	2.43	8.3	0456

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

0 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.20	124.1	17.2	170.7	38.9	26.2	5.13	A
M.C.	0.20	121.0	16.6	175.7	40.1	26.7	5.44	B
	0.20	117.0	15.6	171.3	38.0	25.4	5.87	C
	0.20	103.6	12.7	139.3	29.9	19.5	7.55	D
	0.20	89.0	10.2	118.1	24.5	15.8	9.96	E
	0.20	74.5	8.0	94.5	19.2	12.3	13.63	F
	0.20	65.6	6.8	79.9	16.1	10.3	17.24	G
	0.20	48.1	4.1	56.2	11.7	6.7	31.01	H
CLIMB	0.30	126.3	16.3	180.9	41.5	27.7	5.93	I
M.C.	0.30	123.4	15.7	181.9	40.9	27.3	6.38	J
	0.30	119.1	14.6	171.4	37.8	25.1	7.01	K
	0.30	105.4	11.6	140.0	29.8	19.3	9.43	L
	0.30	91.1	9.2	120.3	24.9	15.7	13.26	M
	0.30	76.2	7.0	96.0	19.2	12.1	19.96	N
	0.30	67.2	5.8	81.6	16.1	10.2	27.87	O
	0.30	49.4	3.2	57.8	11.7	6.5	80.10	P
CLIMB	0.40	129.8	16.0	191.2	43.8	29.5	6.96	1
M.C.	0.40	126.1	14.9	184.1	41.2	27.6	7.66	2
	0.40	121.8	13.7	170.3	38.2	24.7	8.64	3
	0.40	108.3	10.7	147.4	30.8	20.0	12.38	4
	0.40	94.0	8.2	123.0	25.0	15.8	19.67	5
	0.40	78.6	6.0	98.4	19.2	12.2	37.30	6
	0.40	69.4	4.8	84.3	16.2	10.3	73.61	7
	0.40	51.3	2.8	60.3	11.7	7.0	-130.00	8
CLIMB	0.50	133.5	15.4	194.2	44.7	30.0	8.47	9
M.C.	0.50	129.5	14.2	183.4	41.3	27.7	9.59	10
	0.50	125.5	13.0	171.8	37.9	25.2	11.10	11
	0.50	111.7	9.9	151.6	31.3	20.5	18.06	12
	0.50	97.1	7.3	126.4	24.9	16.2	38.24	13
	0.50	81.6	5.1	101.2	19.2	12.4	336.16	14
	0.50	72.3	3.9	87.7	16.3	10.5	-106.37	15
	0.50	53.9	1.9	63.5	11.8	7.3	-34.82	16
CLIMB	0.60	137.7	15.1	195.2	44.5	30.9	10.75	17
M.C.	0.60	133.6	13.8	184.5	41.2	28.6	12.65	18
	0.60	128.9	12.5	174.3	37.4	26.4	15.42	19
	0.60	115.6	9.2	154.4	31.3	21.2	34.07	20
	0.60	101.3	6.5	130.1	25.0	16.7	1570.68	21
	0.60	85.8	4.3	105.3	19.3	12.9	-45.91	22
	0.60	75.6	3.0	91.5	16.4	10.9	-29.72	23
	0.60	56.9	1.0	67.3	11.9	7.5	-19.53	24
CLIMB	0.70	142.9	15.0	196.8	44.3	32.7	14.63	25
M.C.	0.70	138.3	13.6	186.8	40.9	30.3	18.48	26
	0.70	133.8	12.2	179.1	38.1	27.9	25.42	27
	0.70	119.3	8.7	159.0	31.7	22.4	349.45	28
	0.70	106.0	5.8	135.1	25.1	17.6	-38.49	29
	0.70	90.6	3.5	110.5	19.4	13.7	-20.80	30
	0.70	79.3	2.1	95.6	16.5	11.4	-16.76	31
	0.70	60.5	0.0	71.8	11.9	7.9	-13.23	32
CLIMB	0.75	145.4	15.0	198.7	44.7	33.8	17.80	33
M.C.	0.75	141.1	13.6	189.4	41.4	31.4	24.04	34
	0.75	136.3	12.1	184.4	39.4	29.1	37.82	35
	0.75	122.7	8.5	160.7	31.6	23.2	-93.79	36
	0.75	108.5	5.5	137.2	25.2	18.2	-25.06	37
	0.75	93.4	3.1	113.7	19.6	14.2	-16.15	38
	0.75	82.1	1.2	98.7	16.7	11.4	-13.48	39
	0.75	62.4	-0.4	74.1	11.9	8.1	-11.28	40
CLIMB	0.80	148.3	15.2	201.2	45.2	35.1	22.69	41
M.C.	0.80	144.1	13.7	194.6	42.6	32.7	34.44	42
	0.80	139.4	12.1	188.3	40.1	30.3	74.48	43
	0.80	125.7	8.3	164.4	32.0	24.1	-40.67	44
	0.80	111.3	5.3	139.6	25.2	18.9	-18.47	45
	0.80	96.3	2.7	116.9	19.8	14.8	-13.09	46
	0.80	85.0	0.5	102.0	16.8	11.5	-11.21	47
	0.80	64.5	-0.9	76.7	12.0	8.3	-9.76	48

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

5000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.20	106.3	15.5	125.3	28.0	20.5	4.75	0049
M.C.	0.20	103.9	14.9	133.4	29.9	21.3	4.97	0050
	0.20	101.2	14.1	142.4	31.9	22.1	5.26	0051
	0.20	91.1	11.7	127.6	27.6	18.5	6.61	0052
	0.20	79.2	9.4	106.5	22.3	14.7	8.66	0053
	0.20	66.2	7.4	86.0	17.4	11.4	11.72	0054
	0.20	58.4	6.3	73.1	14.7	9.6	14.70	0055
	0.20	43.4	4.5	51.3	10.4	6.9	25.33	0056
CLIMB	0.30	108.8	14.7	133.7	30.1	21.8	5.40	0057
M.C.	0.30	106.3	14.2	142.2	32.0	22.6	5.70	0058
	0.30	103.4	13.4	150.0	33.4	23.1	6.11	0059
	0.30	91.9	10.8	127.1	27.1	18.2	8.06	0060
	0.30	82.4	8.7	109.8	22.7	14.7	11.11	0061
	0.30	67.6	6.5	87.2	17.4	11.3	16.35	0062
	0.30	59.7	5.4	74.4	14.7	9.5	22.18	0063
	0.30	44.6	3.7	52.9	10.5	6.8	52.80	0064
CLIMB	0.40	112.0	14.4	146.0	33.3	24.0	6.15	0065
M.C.	0.40	109.3	13.8	152.8	35.3	24.3	6.61	0066
	0.40	106.1	12.9	156.6	34.9	24.0	7.24	0067
	0.40	94.9	10.1	128.3	27.3	18.3	10.21	0068
	0.40	83.2	7.9	112.6	23.0	14.9	15.43	0069
	0.40	69.8	5.7	89.5	17.5	11.4	26.88	0070
	0.40	61.6	4.6	76.2	14.7	9.5	45.28	0071
	0.40	46.3	2.9	54.9	10.5	6.8	-526.30	0072
CLIMB	0.50	116.1	14.5	163.0	37.8	26.9	7.09	0073
M.C.	0.50	112.6	13.6	165.3	38.0	26.4	7.81	0074
	0.50	108.9	12.4	158.4	35.1	24.6	8.88	0075
	0.50	98.5	9.6	130.2	27.3	18.8	13.83	0076
	0.50	85.9	7.1	114.9	23.1	15.1	25.38	0077
	0.50	72.7	5.0	92.6	17.7	11.7	77.70	0078
	0.50	63.7	3.8	78.5	14.6	9.8	-676.62	0079
	0.50	48.3	2.1	57.3	10.5	6.8	-42.31	0080
CLIMB	0.60	121.1	14.9	176.5	41.4	29.8	8.36	0081
M.C.	0.60	116.3	13.4	169.0	38.4	27.8	9.63	0082
	0.60	112.3	12.1	157.3	35.4	24.8	11.53	0083
	0.60	101.4	9.1	138.2	28.5	19.9	21.32	0084
	0.60	89.6	6.4	117.8	23.1	15.6	73.24	0085
	0.60	76.3	4.4	96.0	17.8	12.1	-81.11	0086
	0.60	66.6	2.9	81.3	14.7	9.9	-37.77	0087
	0.60	51.0	1.3	60.6	10.6	7.1	-21.43	0088

DETROIT DIESEL ALLISON DIVISION — EDR 9774 — GENERAL MOTORS CORPORATION

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

10000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.20	90.0	13.5	95.2	20.9	16.3	4.47	0089
M.C.	0.20	88.3	13.1	97.7	21.4	16.4	4.64	0090
	0.20	86.4	12.6	103.8	22.9	17.0	4.85	0091
	0.20	79.4	10.8	118.0	25.9	17.8	5.77	0092
	0.20	69.6	8.7	93.8	19.8	13.4	7.53	0093
	0.20	59.0	6.9	78.6	16.1	10.8	10.09	0094
	0.20	51.8	5.8	66.6	13.4	9.0	12.56	0095
	0.20	38.8	4.2	46.8	9.4	6.3	20.92	0096
CLIMB	0.30	92.1	13.1	99.6	22.0	17.3	5.00	0097
M.C.	0.30	90.4	12.7	103.4	22.9	17.4	5.23	0098
	0.30	88.3	12.1	110.8	24.6	18.2	5.52	0099
	0.30	80.8	10.1	118.1	25.7	17.6	6.88	0100
	0.30	70.8	8.0	95.1	19.8	13.3	9.40	0101
	0.30	60.3	6.2	79.9	16.3	10.6	13.50	0102
	0.30	52.8	5.1	67.6	13.4	8.9	17.90	0103
	0.30	39.9	3.5	47.9	9.4	6.3	37.77	0104
CLIMB	0.40	95.2	12.8	106.8	23.9	18.9	5.59	0105
M.C.	0.40	93.2	12.5	113.0	25.4	19.4	5.91	0106
	0.40	90.9	11.8	121.3	27.2	20.0	6.33	0107
	0.40	82.7	9.5	117.7	25.5	17.5	8.44	0108
	0.40	72.6	7.3	96.8	19.9	13.5	12.40	0109
	0.40	62.1	5.5	81.8	16.3	10.7	20.22	0110
	0.40	54.1	4.5	68.9	13.3	8.9	31.08	0111
	0.40	41.3	2.8	49.6	9.4	6.3	204.04	0112
CLIMB	0.50	98.5	13.2	118.4	27.2	21.6	6.23	0113
M.C.	0.50	96.5	12.5	126.2	28.8	22.0	6.70	0114
	0.50	94.1	11.7	134.0	30.4	22.1	7.36	0115
	0.50	84.9	9.0	118.4	25.2	17.8	10.81	0116
	0.50	75.1	6.8	102.3	20.6	14.1	18.08	0117
	0.50	64.5	4.9	84.0	16.1	11.0	40.48	0118
	0.50	56.4	3.4	71.1	13.4	8.7	134.01	0119
	0.50	43.0	2.2	51.6	9.4	6.3	-57.17	0120
CLIMB	0.60	102.5	13.6	134.8	31.7	24.8	6.97	0121
M.C.	0.60	100.3	12.7	141.5	33.5	24.8	7.72	0122
	0.60	97.4	11.7	143.8	32.7	24.2	8.81	0123
	0.60	87.8	8.7	119.0	25.2	18.3	14.96	0124
	0.60	78.1	6.4	105.7	20.8	14.8	34.00	0125
	0.60	67.1	4.4	86.6	16.2	11.4	-1107.43	0126
	0.60	59.4	2.8	74.1	13.5	8.9	-54.34	0127
	0.60	45.2	1.5	54.3	9.5	6.6	-24.28	0128
CLIMB	0.70	106.8	14.0	154.5	37.2	29.2	7.90	0129
M.C.	0.70	104.1	12.9	153.3	35.9	27.9	9.15	0130
	0.70	100.9	11.7	144.4	33.3	25.1	11.22	0131
	0.70	91.0	8.4	121.3	25.5	19.3	24.37	0132
	0.70	81.1	5.9	108.4	21.2	15.4	405.04	0133
	0.70	70.5	3.8	90.0	16.4	11.9	-36.06	0134
	0.70	62.8	2.7	77.5	13.6	9.9	-22.26	0135
	0.70	47.8	0.8	57.3	9.5	6.9	-15.00	0136
CLIMB	0.75	109.0	14.3	159.2	38.7	30.7	8.55	0137
M.C.	0.75	106.1	13.1	153.9	36.0	28.6	10.20	0138
	0.75	102.6	11.7	143.6	33.2	25.6	12.98	0139
	0.75	92.8	8.4	126.7	26.4	20.3	35.21	0140
	0.75	82.9	5.7	109.8	21.2	15.9	-88.41	0141
	0.75	71.9	3.3	91.2	16.4	12.0	-23.67	0142
	0.75	64.6	2.6	79.3	13.6	10.6	-17.01	0143
	0.75	49.3	0.5	59.1	9.6	7.1	-12.46	0144
CLIMB	0.80	111.2	14.5	161.7	39.4	31.8	9.37	0145
M.C.	0.80	108.0	13.2	153.0	36.3	29.1	11.62	0146
	0.80	103.7	11.9	143.5	32.5	26.5	15.28	0147
	0.80	94.7	8.4	128.2	26.3	21.2	65.76	0148
	0.80	84.9	5.6	111.3	21.2	16.5	-39.66	0149
	0.80	73.8	2.9	92.7	16.4	12.2	-17.48	0150
	0.80	66.6	2.4	81.4	13.7	10.9	-13.67	0151
	0.80	51.1	0.2	61.1	9.7	7.4	-10.58	0152

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

15000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.30	77.2	11.4	79.5	17.6	14.3	4.70	0153
M.C.	0.30	76.0	11.0	79.8	17.3	14.2	4.88	0154
	0.30	74.5	10.6	81.9	17.6	14.3	5.08	0155
	0.30	69.3	9.2	97.8	21.4	15.4	5.99	0156
	0.30	61.8	7.4	86.5	18.2	12.6	7.96	0157
	0.30	53.2	5.8	71.5	14.5	9.9	11.19	0158
	0.30	46.5	4.4	61.1	12.2	8.0	14.67	0159
	0.30	35.2	3.2	43.0	8.3	5.7	28.47	0160
CLIMB	0.40	79.6	11.4	82.8	18.4	15.7	5.16	0161
M.C.	0.40	78.4	11.0	84.5	18.5	15.6	5.39	0162
	0.40	76.8	10.5	87.2	19.3	15.4	5.71	0163
	0.40	71.3	8.9	104.9	23.0	16.5	7.04	0164
	0.40	63.2	6.9	85.6	17.9	12.5	10.08	0165
	0.40	54.6	5.2	73.0	14.7	9.9	15.61	0166
	0.40	48.0	3.8	62.8	12.3	7.8	23.06	0167
	0.40	36.4	2.7	44.4	8.4	5.8	77.92	0168
CLIMB	0.50	82.5	11.5	87.8	19.9	17.1	5.62	0169
M.C.	0.50	81.2	11.1	90.8	20.5	17.3	5.97	0170
	0.50	79.6	10.6	97.3	22.0	17.6	6.41	0171
	0.50	73.4	8.6	108.8	23.9	17.2	8.54	0172
	0.50	65.3	6.5	88.0	18.1	12.9	13.60	0173
	0.50	56.6	4.8	75.9	14.8	10.2	25.75	0174
	0.50	50.1	3.5	64.9	12.4	8.2	54.46	0175
	0.50	38.0	2.1	46.1	8.4	5.8	-97.78	0176
CLIMB	0.60	86.4	12.1	97.4	22.5	19.8	6.08	0177
M.C.	0.60	84.8	11.5	103.1	23.9	20.0	6.56	0178
	0.60	83.0	10.8	110.9	25.5	20.4	7.22	0179
	0.60	75.7	8.4	108.1	23.6	17.5	10.98	0180
	0.60	67.4	6.1	90.3	18.3	13.4	21.02	0181
	0.60	58.5	4.1	77.8	15.0	10.3	80.54	0182
	0.60	52.4	3.5	67.1	12.4	8.9	-141.95	0183
	0.60	39.9	1.6	48.3	8.4	6.0	-29.00	0184
CLIMB	0.70	90.3	12.9	111.8	26.8	23.5	6.52	0185
M.C.	0.70	88.6	12.1	119.3	28.4	23.7	7.24	0186
	0.70	86.4	11.2	125.5	29.3	23.6	8.28	0187
	0.70	78.5	8.3	108.7	23.4	18.3	15.20	0188
	0.70	70.4	5.9	95.9	19.1	14.5	46.54	0189
	0.70	61.1	3.6	79.9	14.9	10.6	-66.30	0190
	0.70	55.0	3.0	69.7	12.4	9.5	-29.75	0191
	0.70	42.3	1.1	51.1	8.5	6.4	-16.56	0192
CLIMB	0.75	92.7	13.3	121.7	29.6	25.7	6.75	0193
M.C.	0.75	90.7	12.4	127.9	31.2	25.5	7.65	0194
	0.75	88.1	11.4	130.1	30.6	24.9	9.02	0195
	0.75	80.0	8.3	108.5	23.5	18.7	18.76	0196
	0.75	72.1	5.8	97.6	19.2	15.0	126.34	0197
	0.75	62.6	3.4	81.1	14.9	11.1	-33.92	0198
	0.75	56.6	2.8	71.0	12.4	9.7	-21.00	0199
	0.75	43.7	0.8	52.7	8.6	6.6	-13.47	0200
CLIMB	0.80	95.2	13.8	133.0	32.8	28.3	6.99	0201
M.C.	0.80	92.8	13.0	135.7	32.8	27.8	8.10	0202
	0.80	89.9	11.5	131.1	31.2	25.5	9.97	0203
	0.80	81.5	8.3	108.4	23.4	19.3	24.57	0204
	0.80	73.5	5.5	98.7	19.6	15.3	-162.36	0205
	0.80	64.1	3.3	82.4	14.9	11.5	-22.61	0206
	0.80	58.2	2.6	72.5	12.4	10.1	-16.15	0207
	0.80	45.2	0.6	54.6	8.7	6.8	-11.28	0208

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

20000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.40	65.9	9.8	67.3	15.2	13.0	4.81	0209
M.C.	0.40	65.0	9.5	66.8	14.8	12.7	5.01	0210
	0.40	63.9	9.1	67.4	14.6	12.7	5.24	0211
	0.40	60.2	8.0	76.0	16.5	12.9	6.18	0212
	0.40	54.5	6.4	79.5	16.9	12.0	8.21	0213
	0.40	47.3	4.8	63.9	12.9	9.0	12.34	0214
	0.40	42.3	4.1	56.6	11.2	7.7	17.32	0215
	0.40	32.0	2.5	39.8	7.5	5.3	45.01	0216
CLIMB	0.50	68.5	10.1	70.3	16.0	14.2	5.16	0217
M.C.	0.50	67.5	9.7	70.3	15.7	14.1	5.42	0218
	0.50	66.3	9.3	71.7	15.7	14.1	5.73	0219
	0.50	62.4	8.0	84.8	18.7	14.5	7.12	0220
	0.50	56.1	6.1	79.1	16.6	12.1	10.50	0221
	0.50	48.6	4.2	66.1	13.2	9.1	18.22	0222
	0.50	43.9	3.8	58.3	11.2	8.1	30.71	0223
	0.50	33.3	2.1	41.2	7.5	5.4	-681.64	0224
CLIMB	0.60	71.6	10.6	74.5	17.2	16.0	5.45	0225
M.C.	0.60	70.6	10.2	76.1	17.2	16.1	5.78	0226
	0.60	69.3	9.7	78.5	17.9	15.9	6.25	0227
	0.60	64.7	8.0	95.1	21.3	16.4	8.37	0228
	0.60	57.9	5.9	80.2	16.6	12.6	14.41	0229
	0.60	50.6	3.9	69.4	13.6	9.5	35.11	0230
	0.60	45.7	3.4	60.3	11.3	8.3	148.17	0231
	0.60	35.1	1.7	43.0	7.5	5.6	-38.07	0232
CLIMB	0.70	75.3	11.4	81.1	19.1	18.7	5.65	0233
M.C.	0.70	74.2	10.9	84.6	19.9	18.7	6.12	0234
	0.70	72.7	10.2	90.9	21.6	18.9	6.75	0235
	0.70	67.1	8.1	98.4	22.1	17.6	10.36	0236
	0.70	60.1	5.7	81.3	16.7	13.1	22.91	0237
	0.70	52.8	3.7	71.3	13.8	10.0	1253.81	0238
	0.70	47.9	3.0	62.3	11.3	8.8	-49.80	0239
	0.70	37.4	1.3	45.7	7.7	5.9	-19.00	0240
CLIMB	0.75	77.6	11.9	86.8	20.7	20.3	5.71	0241
M.C.	0.75	76.2	11.3	92.0	22.0	20.5	6.26	0242
	0.75	74.5	10.6	98.6	23.5	20.8	7.02	0243
	0.75	68.4	8.1	98.0	22.0	17.9	11.88	0244
	0.75	61.4	5.7	81.5	16.7	13.6	32.82	0245
	0.75	54.0	3.7	72.1	13.7	10.5	-76.20	0246
	0.75	49.0	2.8	63.3	11.3	9.0	-29.35	0247
	0.75	38.6	1.1	47.0	7.7	6.1	-15.00	0248
CLIMB	0.80	79.8	12.4	94.2	22.9	22.4	5.75	0249
M.C.	0.80	78.3	11.8	100.3	24.3	22.6	6.39	0250
	0.80	76.3	10.9	106.9	25.8	22.7	7.32	0251
	0.80	69.0	8.0	98.5	22.0	18.5	13.84	0252
	0.80	64.7	5.9	85.6	17.3	14.4	56.34	0253
	0.80	55.3	3.8	73.0	13.7	11.1	-36.85	0254
	0.80	50.4	2.7	64.5	11.3	9.3	-20.65	0255
	0.80	39.8	0.9	48.4	7.8	6.3	-12.32	0256

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

25000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL HP	DEL FN	K	NO
INTER M.C.	0.40	54.9	10.9	54.9	12.7	0.0	4.51	[illegible]
	0.40	54.6	10.6	54.6	12.3	0.0	4.68	[illegible]
	0.40	53.8	10.4	53.8	11.9	0.0	4.88	[illegible]
	0.40	54.8	10.1	54.8	11.5	0.0	5.58	[illegible]
	0.40	66.1	10.7	66.1	14.1	0.0	6.86	[illegible]
	0.40	55.9	8.0	55.9	11.4	0.0	9.96	[illegible]
	0.40	49.6	7.3	49.6	9.7	0.0	13.32	[illegible]
	0.40	35.9	4.9	35.9	6.8	0.0	29.94	[illegible]
INTER M.C.	0.50	57.1	11.9	57.1	13.3	0.0	4.77	257
	0.50	56.7	11.7	56.7	12.9	0.0	4.99	258
	0.50	56.3	11.5	56.3	12.5	0.0	5.25	259
	0.50	60.2	11.4	60.2	12.9	0.0	6.21	260
	0.50	71.5	11.6	71.4	15.3	0.0	8.21	261
	0.50	57.2	8.4	57.2	11.5	0.0	13.48	262
	0.50	51.4	7.4	51.4	9.9	0.0	20.23	263
	0.50	37.2	5.0	37.2	6.8	0.0	109.72	264
INTER M.C.	0.60	60.0	13.4	60.0	14.1	0.0	4.96	265
	0.60	59.7	13.2	59.7	13.7	0.0	5.23	266
	0.60	60.1	13.1	60.1	13.4	0.0	5.55	267
	0.60	67.7	13.0	67.7	15.1	0.0	6.95	268
	0.60	72.6	11.9	72.6	15.6	0.0	10.37	269
	0.60	58.9	8.8	58.9	11.7	0.0	20.86	270
	0.60	53.4	7.7	53.4	10.2	0.0	42.93	271
	0.60	38.7	5.1	38.7	6.9	0.0	-61.70	272
INTER M.C.	0.70	63.9	15.2	63.9	15.1	0.0	5.03	273
	0.70	63.9	15.1	63.9	14.8	0.0	5.36	274
	0.70	65.5	15.1	65.5	15.0	0.0	5.78	275
	0.70	78.4	15.3	78.4	17.9	0.0	7.81	276
	0.70	72.8	12.4	72.8	15.5	0.0	14.14	277
	0.70	61.4	9.6	61.4	12.0	0.0	46.62	278
	0.70	55.0	8.1	55.0	10.2	0.0	-281.12	279
	0.70	40.4	5.4	40.4	6.9	0.0	-23.28	280
INTER M.C.	0.75	66.3	16.5	66.3	15.8	0.0	5.01	281
	0.75	67.5	16.5	67.5	15.7	0.0	5.36	282
	0.75	69.7	16.4	69.7	16.2	0.0	5.86	283
	0.75	84.2	16.6	84.2	19.5	0.0	8.33	284
	0.75	72.6	12.7	72.6	15.4	0.0	17.29	285
	0.75	63.6	10.1	63.6	12.4	0.0	120.61	286
	0.75	56.0	8.3	56.0	10.3	0.0	-57.00	287
	0.75	41.4	5.6	41.4	6.9	0.0	-17.50	288
INTER M.C.	0.80	69.4	17.9	69.4	16.6	0.0	4.96	289
	0.80	71.6	18.0	71.6	16.9	0.0	5.35	290
	0.80	75.0	17.8	75.0	17.9	0.0	5.94	291
	0.80	87.3	17.6	87.3	20.4	0.0	9.00	292
	0.80	72.4	12.9	72.4	15.4	0.0	22.18	293
	0.80	64.7	10.5	64.7	12.3	0.0	-182.51	294
	0.80	57.0	8.6	57.0	10.3	0.0	-31.48	295
	0.80	42.4	5.7	42.4	6.9	0.0	-13.92	296

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

30000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.50	45.7	7.3	46.6	11.1	10.0	4.42	0297
M.C.	0.50	45.2	7.0	46.1	10.7	9.8	4.61	0298
	0.50	44.5	6.8	45.4	10.3	9.5	4.86	0299
	0.50	42.5	6.1	44.3	9.5	8.9	5.61	0300
	0.50	39.9	5.2	51.1	10.9	9.1	6.91	0301
	0.50	35.7	4.1	51.5	10.7	8.1	10.18	0302
	0.50	32.5	3.3	44.5	8.7	6.7	14.41	0303
	0.50	25.5	2.0	33.8	6.2	4.6	45.29	0304
CLIMB	0.60	47.9	7.6	48.7	11.7	11.1	4.54	0305
M.C.	0.60	47.3	7.5	48.1	11.3	10.9	4.76	0306
	0.60	46.5	7.2	47.5	10.9	10.6	5.04	0307
	0.60	44.4	6.4	47.7	10.4	10.1	6.04	0308
	0.60	41.6	5.3	58.2	12.7	10.4	8.00	0309
	0.60	37.0	4.0	51.6	10.5	8.5	13.82	0310
	0.60	33.7	3.1	45.8	8.8	7.0	23.13	0311
	0.60	26.7	1.8	34.6	6.2	4.7	-260.39	0312
CLIMB	0.70	50.6	8.3	51.6	12.4	12.7	4.53	0313
M.C.	0.70	49.9	8.1	51.0	12.0	12.4	4.80	0314
	0.70	49.1	7.8	50.6	11.7	12.2	5.12	0315
	0.70	47.1	6.9	54.6	12.2	12.0	6.42	0316
	0.70	43.2	5.2	64.0	14.2	11.5	9.67	0317
	0.70	38.4	3.9	52.4	10.5	8.8	21.60	0318
	0.70	35.1	3.0	47.6	9.0	7.4	60.48	0319
	0.70	28.0	1.5	35.8	6.2	4.9	-32.27	0320
CLIMB	0.75	52.0	8.8	53.1	12.9	13.7	4.48	0321
M.C.	0.75	51.4	8.5	52.8	12.5	13.4	4.76	0322
	0.75	50.6	8.1	52.9	12.2	13.2	5.11	0323
	0.75	47.9	7.0	58.7	13.5	13.0	6.64	0324
	0.75	44.1	5.3	64.7	14.3	11.9	10.90	0325
	0.75	39.1	3.9	53.8	10.7	9.2	29.95	0326
	0.75	35.9	2.9	48.9	9.3	7.6	373.01	0327
	0.75	28.8	1.4	36.6	6.2	5.1	-22.12	0328
CLIMB	0.80	54.0	9.3	55.1	13.4	14.7	4.39	0329
M.C.	0.80	53.1	9.0	54.8	13.0	14.4	4.69	0330
	0.80	52.2	8.6	55.3	12.9	14.3	5.06	0331
	0.80	49.3	7.3	63.8	14.9	14.3	6.82	0332
	0.80	44.8	5.4	65.0	14.4	12.3	12.55	0333
	0.80	40.0	3.8	54.0	10.9	9.4	49.54	0334
	0.80	36.7	2.8	49.5	9.3	7.8	-87.67	0335
	0.80	29.6	1.3	37.3	6.2	5.3	-16.67	0336

DETROIT DIESEL ALLISON DIVISION — EDR 9774 — GENERAL MOTORS CORPORATION

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

35000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.50	36.8	6.1	37.7	9.3	8.3	4.10	0337
M.C.	0.50	36.3	6.0	37.2	9.0	8.1	4.27	0338
	0.50	35.8	5.7	36.6	8.6	7.8	4.47	0339
	0.50	34.3	5.1	35.0	7.7	7.3	5.13	0340
	0.50	32.5	4.5	35.4	7.4	6.9	6.08	0341
	0.50	30.0	3.8	43.5	9.1	7.4	7.92	0342
	0.50	27.5	3.1	38.8	7.8	6.2	10.74	0343
	0.50	22.3	1.9	29.5	5.5	4.2	26.46	0344
CLIMB	0.60	38.6	6.5	39.5	9.7	9.3	4.16	0345
M.C.	0.60	38.0	6.3	38.9	9.4	9.0	4.36	0346
	0.60	37.5	6.0	38.4	9.0	8.8	4.59	0347
	0.60	35.9	5.4	36.9	8.1	8.2	5.40	0348
	0.60	34.0	4.5	39.6	8.5	7.8	6.73	0349
	0.60	31.0	3.8	45.8	9.7	7.9	9.79	0350
	0.60	28.4	2.9	38.9	7.7	6.3	14.96	0351
	0.60	22.9	1.7	30.5	5.6	4.3	86.86	0352
CLIMB	0.70	40.8	7.1	41.5	10.3	10.5	4.11	0353
M.C.	0.70	40.2	6.8	41.1	9.9	10.3	4.33	0354
	0.70	39.6	6.6	40.4	9.6	10.0	4.60	0355
	0.70	37.8	5.8	39.5	8.8	9.4	5.58	0356
	0.70	35.5	4.8	45.6	10.1	9.3	7.46	0357
	0.70	32.2	3.7	46.6	9.8	8.3	13.00	0358
	0.70	29.6	2.9	40.7	7.9	6.7	24.46	0359
	0.70	24.0	1.6	32.0	5.6	4.6	-63.45	0360
CLIMB	0.75	42.1	7.4	42.8	10.6	11.2	4.04	0361
M.C.	0.75	41.5	7.2	42.3	10.3	11.0	4.27	0362
	0.75	40.9	6.9	41.8	9.9	10.8	4.55	0363
	0.75	38.9	6.1	41.2	9.3	10.1	5.62	0364
	0.75	36.2	5.0	49.3	11.1	10.2	7.87	0365
	0.75	32.9	3.7	46.2	9.6	8.5	15.59	0366
	0.75	30.2	2.8	41.3	8.0	6.9	36.33	0367
	0.75	24.5	1.5	32.1	5.6	4.7	-33.05	0368
CLIMB	0.80	43.2	7.8	44.1	11.0	12.1	3.94	0369
M.C.	0.80	42.8	7.6	43.7	10.6	11.8	4.17	0370
	0.80	42.2	7.3	43.2	10.3	11.6	4.47	0371
	0.80	40.1	6.4	44.3	10.0	11.1	5.62	0372
	0.80	37.2	5.2	53.6	12.3	11.2	8.34	0373
	0.80	33.5	3.7	46.8	9.7	8.7	19.39	0374
	0.80	30.9	2.8	42.0	8.1	7.2	71.30	0375
	0.80	25.1	1.4	32.7	5.6	4.8	-22.25	0376

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

40000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.50	29.0	4.8	29.8	7.3	6.6	4.04	0377
M.C.	0.50	28.7	4.7	29.5	7.1	6.4	4.20	0378
	0.50	28.3	4.5	29.0	6.9	6.3	4.39	0379
	0.50	27.1	4.1	27.6	6.1	5.8	5.04	0380
	0.50	25.7	3.6	27.5	5.7	5.5	5.92	0381
	0.50	23.8	3.1	33.2	7.0	5.8	7.61	0382
	0.50	21.9	2.5	31.7	6.5	5.1	10.11	0383
	0.50	17.5	1.6	23.6	4.4	3.4	23.99	0384
CLIMB	0.60	30.5	5.2	31.3	7.8	7.4	4.08	0385
M.C.	0.60	30.1	5.0	30.7	7.5	7.2	4.28	0386
	0.60	29.6	4.8	30.3	7.2	7.0	4.50	0387
	0.60	28.3	4.3	29.0	6.4	6.5	5.29	0388
	0.60	26.9	3.6	30.2	6.4	6.1	6.52	0389
	0.60	24.7	3.1	36.5	7.7	6.4	9.19	0390
	0.60	22.7	2.4	31.4	6.3	5.2	13.74	0391
	0.60	18.3	1.4	24.2	4.4	3.5	65.55	0392
CLIMB	0.70	32.2	5.6	32.9	8.2	8.4	4.03	0393
M.C.	0.70	31.7	5.4	32.5	7.9	8.2	4.24	0394
	0.70	31.3	5.2	31.9	7.6	7.9	4.50	0395
	0.70	29.9	4.7	30.9	6.9	7.4	5.43	0396
	0.70	28.1	3.9	34.7	7.7	7.3	7.14	0397
	0.70	25.5	3.0	37.7	8.0	6.8	11.83	0398
	0.70	23.6	2.3	32.6	6.4	5.4	21.36	0399
	0.70	19.1	1.3	25.8	4.6	3.7	-82.74	0400
CLIMB	0.75	33.2	5.9	33.8	8.4	8.9	3.95	0401
M.C.	0.75	32.7	5.7	33.4	8.2	8.7	4.17	0402
	0.75	32.2	5.5	33.0	7.8	8.5	4.44	0403
	0.75	30.8	4.9	32.2	7.3	8.0	5.45	0404
	0.75	28.8	4.1	37.4	8.4	8.0	7.46	0405
	0.75	26.2	3.1	37.7	8.0	6.9	13.89	0406
	0.75	24.1	2.3	33.0	6.5	5.6	29.74	0407
	0.75	19.6	1.2	26.0	4.5	3.8	-38.05	0408
CLIMB	0.80	34.2	6.3	34.7	8.7	9.6	3.85	0409
M.C.	0.80	33.8	6.1	34.5	8.4	9.4	4.07	0410
	0.80	33.3	5.8	34.0	8.1	9.2	4.36	0411
	0.80	31.8	5.1	33.9	7.7	8.7	5.43	0412
	0.80	29.5	4.2	40.8	9.3	8.8	7.83	0413
	0.80	26.7	3.1	37.3	7.8	7.1	16.79	0414
	0.80	24.6	2.3	33.6	6.6	5.8	49.28	0415
	0.80	20.1	1.2	26.2	4.6	3.9	-24.27	0416

PD370-37 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

45000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.50	22.9	3.8	23.5	5.8	5.2	4.03	0417
M.C.	0.50	22.6	3.7	23.2	5.6	5.0	4.20	0418
	0.50	22.3	3.6	22.8	5.4	4.9	4.39	0419
	0.50	21.3	3.2	21.7	4.8	4.6	5.04	0420
	0.50	20.1	2.8	21.5	4.5	4.3	5.93	0421
	0.50	18.7	2.4	26.1	5.5	4.6	7.60	0422
	0.50	17.2	2.0	24.9	5.1	4.0	10.10	0423
	0.50	13.8	1.2	18.6	3.5	2.7	24.00	0424
CLIMB	0.60	23.9	4.1	24.6	6.1	5.8	4.08	0425
M.C.	0.60	23.6	3.9	24.2	5.9	5.7	4.28	0426
	0.60	23.3	3.8	23.8	5.6	5.5	4.50	0427
	0.60	22.3	3.4	22.8	5.1	5.1	5.29	0428
	0.60	21.2	2.8	23.8	5.1	4.8	6.52	0429
	0.60	19.5	2.4	28.7	6.1	5.0	9.19	0430
	0.60	17.8	1.9	24.7	4.9	4.1	13.73	0431
	0.60	14.1	1.1	19.0	3.5	2.8	65.53	0432
CLIMB	0.70	25.3	4.4	25.8	6.4	6.6	4.03	0433
M.C.	0.70	24.9	4.3	25.5	6.2	6.4	4.24	0434
	0.70	24.6	4.1	25.1	6.0	6.2	4.50	0435
	0.70	23.5	3.7	24.3	5.4	5.8	5.43	0436
	0.70	22.1	3.1	27.3	6.0	5.7	7.14	0437
	0.70	20.0	2.4	29.6	6.3	5.3	11.83	0438
	0.70	18.6	1.8	25.7	5.1	4.3	21.36	0439
	0.70	14.8	1.0	20.0	3.6	2.9	-82.36	0440
CLIMB	0.75	26.1	4.7	26.6	6.6	7.0	3.95	0441
M.C.	0.75	25.8	4.5	26.3	6.4	6.9	4.17	0442
	0.75	25.3	4.3	25.9	6.2	6.7	4.45	0443
	0.75	24.2	3.8	25.3	5.7	6.3	5.45	0444
	0.75	22.6	3.2	29.4	6.6	6.3	7.47	0445
	0.75	20.6	2.4	29.7	6.3	5.4	13.89	0446
	0.75	18.9	1.8	26.0	5.1	4.4	29.75	0447
	0.75	15.4	1.0	20.5	3.6	3.0	-38.07	0448
CLIMB	0.80	26.9	4.9	27.3	6.8	7.6	3.84	0449
M.C.	0.80	26.6	4.8	27.1	6.6	7.4	4.07	0450
	0.80	26.2	4.6	26.7	6.4	7.2	4.36	0451
	0.80	25.0	4.0	26.6	6.1	6.8	5.43	0452
	0.80	23.2	3.3	32.1	7.3	6.9	7.83	0453
	0.80	21.0	2.4	29.3	6.1	5.6	16.79	0454
	0.80	19.3	1.8	26.4	5.2	4.6	49.30	0455
	0.80	15.7	0.9	20.6	3.6	3.1	-24.27	0456